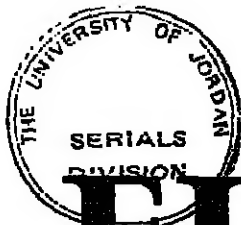


Austria	100.00	Italy	100.00	Spain	100.00
Bahrain	100.00	Japan	100.00	Sweden	100.00
Belgium	100.00	Korea	100.00	Switzerland	100.00
Cyprus	100.00	Malaysia	100.00	Taiwan	100.00
Denmark	100.00	Norway	100.00	Thailand	100.00
Egypt	100.00	Philippines	100.00	Turkey	100.00
France	100.00	Singapore	100.00	UAE	100.00
Germany	100.00	Sri Lanka	100.00	Yemen	100.00
Greece	100.00	Taiwan	100.00	Zimbabwe	100.00
Hong Kong	100.00	Thailand	100.00		
India	100.00	Turkey	100.00		
Indonesia	100.00	UAE	100.00		
Israel	100.00	Yemen	100.00		
Italy	100.00	Zimbabwe	100.00		



EUROPE'S BUSINESS NEWSPAPER

# FINANCIAL TIMES

**US WELFARE**  
Gaping holes in the not so Great Society  
Page 20

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Friday April 20 1990

D 8523A

## World News

### South Africa killings may jeopardise ANC talks

South African police shot dead four black youths and wounded about 20 during a demonstration at a black township near Johannesburg. The incident could jeopardise negotiations between Pretoria and the African National Congress, Page 4

### Contra ceasefire

Nicaragua and leaders of the US-backed Contra rebels signed a ceasefire in Managua, putting an end to almost nine years of war which has cost about 50,000 lives, Page 22

### Bus bomb kills 15

At least 15 people were killed and 37 injured when a bomb exploded on a bus near Pathankot in India's Punjab state, Page 4

### Jerusalem threat

Leaders of the Palestinian uprising in the Israeli-occupied territories said they had sentenced an Armenian businessman to death for leasing a building in the Old City of Jerusalem to Jewish settlers, Page 2

### Zaire air crash

All but one of the 18 people on board, including an army colonel, died when their Hercules transport aircraft crashed near Kinshasa, the Zaire capital. Twenty people were missing after a twin-engine aircraft crashed off Contadora Island, Panama, Page 23

### Flight disruption

A strike by French air traffic controllers will hit flights today and to the Paris airports of Charles de Gaulle and Orly, Page 23

### Seville explosion

A parcel bomb explosion which blew off the hand of a secretary at the office of the Seville Expo-92 World Fair was believed to be the work of Basque separatists, Page 23

### Better friends

The Vatican and Czechoslovakia restored diplomatic ties two days before Pope John Paul was due to visit, formally ending four decades of sour Church-State relations, Page 4

### Absolute rule ends

King Birendra of Nepal swore in Krishna Prasad Bhattarai as Prime Minister, ending 30 years of absolute rule by the monarchy in the Himalayan kingdom, Page 4

### Australian floods

Ten people are missing in floods which have hit eastern Australia, isolating outback townships and killing more than 15,000 sheep, Page 2

### Diplomats ousted

Turkey asked West Germany to withdraw eight diplomats from Ankara, apparently in retaliation for the expulsion of 15 Turkish diplomats from Bonn recently, Page 2

### Mongolian reform

Mongolia's leadership has dissolved the ministry of public security in Ulaan Bator in another step toward reform, Page 2

### Tight-lipped

A Yugoslav on firearms charges appeared in court in Malaga, Spain, with his lips sewn together to avoid making a statement, Page 2

## Business Summary

### IMF issues warning to Spanish Government

THE International Monetary Fund warned the Spanish Government that it must swiftly reach an agreement with employers and trade unions on boosting competitiveness to avoid a further deterioration in inflation and the current account deficit, Page 22

### US Securities and Exchange Commission approves rule

allowing the sale of privately placed shares and bonds from its registration requirements, a move which it believes will create a much larger and more liquid market with more foreign participation, Page 30

### MARKETS: UK equity market

hit a new low. The FT-SE 100 share closed at 2,184.7, down 21.2 on the day, Page 23; Tokyo - After moving between a low of 22,256.25 and a high of 23,034.45, the Nikkei closed 22,636.35 up at 23,945.41. Back page, Section II

### FRANK LORSEN, the off-manned maverick of US aviation

has lost control of Eastern Air Lines, the ailing carrier he has struggled for a year to rebuild under the protection of the US bankruptcy court, Page 23

### GROUP of Seven industrialised countries called for closer

international co-operation and tougher laws to combat drug money laundering, Page 23

### ALCATEL, French electronics group, said earnings soared

by one-third in 1989 and that of its owners, Compagnie Générale d'Electricité, has increased its stake, Page 23

### AMERICAN Express, US financial services and travel group, announced a net loss of \$820m

in the first quarter due to the troubles at Shearson Lehman Hutton, its brokerage subsidiary, Page 23

### NISSHO Iwai Corporation, Japanese industrial group, Austria, a small Austrian gold

exploration company, and Buller Minerals, a New Zealand mineral company, are going ahead with joint venture plans for a \$76m titanium slag plant, Page 4

### WESTERN European new car sales were running at a record

level in the first quarter of 1990, continuing the longest period of sustained growth enjoyed by the western European car industry, Page 2

### US TRADE officials expressed satisfaction on the implementation of trade agreements

with South Korea, Page 4

### ALLIED-LYONS, UK food and drinks group, agreed to sell Embassy Hotels for \$331.25m

to Jarvis Hotels, Page 10

### BNP, Banque Nationale de Paris, largest French state-owned bank, has reported an 11 per cent increase in net profits, Page 25

### GENERAL Dynamics and Northrop, two leading US defence contractors, reported highest first-quarter earnings, Page 24

### CONNER Peripherals, fast growing computer company, may be forced to slow down because of a shortage of essential components, Page 24

## France and Germany launch new drive for European union by 1993

By George Graham in Paris, David Marsh in Bonn and Philip Stephens in London

FRANCE and West Germany yesterday launched a joint initiative to achieve European political and monetary union by 1993 in a dramatic attempt to bring integration of the Community into line with the quickened pace of German unification.

President François Mitterrand and Chancellor Helmut Kohl issued a joint message to Mr Charles Haughey, the Irish Prime Minister and current President of the European Council, calling for work to begin on an intergovernmental conference on a political union. This would be held in parallel with the conference due to open before the end of the year on economic and monetary union.

The Franco-German initiative, however, drew a decidedly frosty reception from Mrs Margaret Thatcher, the British Prime Minister. She said that the proposals had not been properly defined.

Mrs Thatcher also made it clear that she did not want the EC summit in Dublin at the end of this month to become preoccupied with proposals for political union.

The Franco-German message said: "In view of the profound transformations in Europe, of the establishment of the internal market and of the achievement of Economic and Monetary Union (EMU), we think it necessary to accelerate the political construction of the 12-member Europe."

"We think the time has come to transform the whole relationship between member states into a European Union and to give it the necessary means to act."

It called for preparatory work to begin immediately on an intergovernmental conference, with the aim of:

- reinforcing the democratic legitimacy of the European Union;
- making Europe's institutions more effective;
- ensuring the unity and coherence of the Union's economic, monetary and political actions;
- defining and putting into effect a common foreign and defence policy.

Mr Mitterrand and Mr Kohl ask for a preliminary report to be presented to the June summit of the EC in Dublin, and a final report to the December summit in Italy.

"Our objective is that these fundamental reforms - economic and monetary union as

well as political union - should come into force on January 1, 1993, after ratification by national parliaments."

On the French side, the joint initiative represents the Government's conviction that the best response to German unification and the upheavals in eastern Europe is to press ahead with the development of the European Community.

French officials yesterday emphasised that the political union initiative showed the continued importance of the Paris-Bonn axis in the EC and disproved the widespread impression of an increasing distance between Mr Mitterrand and Mr Kohl.

West German officials said that work on drafting yesterday's declaration had been initiated by Bonn.

By agreeing to the target of 1993, Mr Kohl has moved firmly into line with thinking both in Paris and at the EC Commission.

Brussels has previously set

out a rough plan for negotiations during 1991 on an intergovernmental conference (IGC) on monetary union, leaving 1992 for treaty ratification. This would allow implementation of EMU by 1993 - very close to yesterday's Paris-Bonn goal.

The timetable accelerates significantly the ideas for bringing EMU into force discussed at last December's EC summit in Strasbourg.

Mrs Thatcher, speaking in the House of Commons before her meeting today with Mr Haughey, said Britain had made it clear that it would not accept stage two and three of the Delors report which call for the creation of a single European currency.

She said that the summit needed to address a whole range of practical issues including German unification, relations with Eastern Europe and with members of EFTA and the completion of the single European market.

## Lithuanians stand firm against Soviet blockade

By John Lloyd in Moscow and Karen Fossell and Robert Taylor in Oslo

DEFIANT Lithuanians yesterday prepared to stand up to a Soviet energy blockade as Moscow cut gas flows to the republic by more than 80 per cent the day after closing down its oil pipelines.

In Washington, the White House said that President George Bush was consulting with US allies on how to respond to the tightening Soviet embargo on Lithuania.

In Moscow, Mr Vadim Pavlyov, a Soviet Foreign Ministry spokesman, said that the oil and gas cuts could be followed by other measures which he did not specify.

He said the Soviet Government was still awaiting a response to an ultimatum issued by President Mikhail Gorbachev, the Soviet leader, on Friday in which he said that supplies of all materials to the republic which could be exported for hard currency would be cut if the republic's March 11 declaration of independence was not rescinded.

Mr Vytautas Landsbergis, the Lithuanian President, said the republic would hold out indefinitely against economic sanctions. "Lithuania can hold out for 100 years without gas and oil," he said on a French

native supplies from the Norwegians. Mrs Prunskiene was yesterday also invited to visit Copenhagen on Saturday for talks with Mr Poul Schlüter, the Danish Prime Minister.

However, it remained unclear last night whether the Lithuanian Prime Minister would be meeting any Norwegian oil companies directly during her stay in Oslo. Moreover, the Norwegian Government made clear that it was not actively promoting talks on supplying oil.

Mr Kjell Magne Bondevik, the Norwegian Foreign Minister, said: "The selling of oil and gas is a matter for the companies. If the Lithuanian Government asks for their assistance it is free to do so... but they are on their own."

"We do not use oil and gas as an element in our foreign policy," he said.

An executive for Statoil, the Norwegian state oil group, said the company was "sitting on the sidelines."

Statoil also believes Mrs Prunskiene is being unrealistic because of the enormous logistical problems involved in diverting the oil from the

## E Europe needs welfare nets, says Camdessus

By Stephen Fidler, Euromarkets Correspondent, in London



EAST EUROPEAN countries introducing radical economic reform should ensure they have strong social welfare systems in place, the managing director of the International Monetary Fund, Mr Michel Camdessus, said yesterday.

In a speech in London, he said that a strong social safety net to help, for example, the new unemployed would increase the chance of success of the programmes.

"The stronger the safety net, the stronger will be the case for governments to stand firm in resisting pressures to maintain controlled prices on basic goods or to postpone the liquidation of unviable enterprises," said Mr Camdessus, whose organisation has often been criticised for neglecting the social consequences of its economic programmes.

He acknowledged that heavy demand for foreign capital in east Europe would put upward pressure on worldwide interest rates.

He said governments in industrialised countries should reduce their demand for scarce private savings and allow real interest rates to stabilise, by making efforts to close their budget deficits.

Mr Camdessus said the eco-

## Marshall Field sold to Dayton Hudson

By Karen Zagor in New York and Barbara Durr in Chicago

BAT Industries, the British conglomerate, yesterday took a big step forward in the disposal of its US retail operations when it agreed to sell Marshall Field, the department store chain, to Dayton Hudson for \$1.04bn in cash.

The price, which compares with \$800m expected by analysts, bodes well for the sale of Saks Fifth Avenue, BAT's other big US retail subsidiary. The closing date for bids on Saks is next week and BAT hopes to have a sale agreement by the end of April.

BAT is paring down its businesses to concentrate on tobacco and financial services operations as part of a restructuring designed to fend off a threatened bid from Sir James Goldsmith's Roylake consortium. It expects the reshaping to be completed by the end of June.

The price reflects the strategic appeal of Chicago-based Marshall Field to Dayton Hudson, which also operates fashionable department stores in the Midwest, but has no Chicago outlet.

Mr Jeffrey Bramman, managing director at Finance in New York, which specialises in retailing mergers and acquisitions described the deal as "very logical" for Dayton.

It also shows that a healthy US department store can still fetch a high price. Estimated prices for Field and Saks were revised downwards after Bloomingdale's failed to attract \$1bn when it was put on the block late last year.

BAT bought Saks, which it describes as "the nation's premier high fashion retailer," in 1973 and consolidated its presence in US retailing with the acquisition of Marshall Field in 1982.

Field's elegant flagship store on Chicago's State Street has dominated the city's shopping scene for 130 years. Last year it had revenues of more than \$1bn from its 24 stores.

Mr Patrick Sheehy, BAT chairman, said Field's management had made a credible bid for the retail business, but the Dayton Hudson offer was "clearly superior from both a quantitative and qualitative point."

Dayton Hudson, which operates 606 stores and had revenues of \$13.64bn in 1989, said Continued on Page 22

## Gorbachev sets out on collision course with Estonia and Latvia

By John Lloyd in Moscow

MR MIKHAIL GORBACHEV, the Soviet leader, and the two Baltic republics of Estonia and Latvia were yesterday set on a collision course following the breakdown of talks in Moscow.

The meeting ended in "acrimony and disappointment" despite Mr Gorbachev's offer to the republics of a very large degree of autonomy if they remained in the union.

This would include a "confederative status" and, in the case of Latvia, the removal of all military bases.

Mr Gorbachev also appeared to threaten the republics, saying that if Estonia and Latvia pursued independence, no talks could take place and that the republics would have "no future" outside of the USSR.

Independence, he insisted, was only possible under the new law on secession, adopted last month.

The talks were conducted between Mr Nikolai Ryzhkov, the Prime Minister and Mr Alexander Yakovlev, a senior and the most liberal member of the Communist Party Politburo and Mr Arnold Rutkel

pendence was held by most Estonians.

However Mr Gorbachev, he said, "did not want to listen" and no further talks were agreed. He said Mr Gorbachev had insisted he must tell all Estonians that their future would be in jeopardy if they left the union.

Next week the Estonian parliament will elect the "Soviet Socialist Republic" from its official name and re-emerge as simple "Estonia". The former flag of the pre-war republic will become the national flag.

Mr Ivans commented afterwards that "Mr Gorbachev does not seem to understand that the demand for independence is not confined to extremists, but is shared by the majority." The Latvian Supreme Soviet was also asked to adopt a declaration of independence, early next month, he said.

However, both delegations have agreed that commissions of experts, drawn from the republics and the Soviet sides, should begin work on the outstanding issues between them.



Gorbachev: collision course

## Weekend FT

Tomorrow: The origin of life, the universe and everything

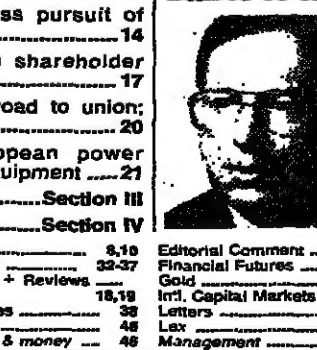
The feuds and tangled fortunes of Louis Vuitton



## CONTENTS

<b>Tel Aviv:</b> Time is up for the nationalist gerontocrats			
<b>Technology:</b> Toyota's relentless pursuit of perfection			
<b>Overseas listings:</b> Enhancing shareholder loyalty and financial clout			
<b>Editorial comments:</b> Europe's road to union: Mitterrand the monetarist			
<b>Electricity generation:</b> European power struggle to supply the UK with equipment			
<b>Computer industry:</b> Survey ..			
<b>Gas industry:</b> Survey ..			
Europe	23	Britain	5,10
Companies	24	Companies	32-37
America	25	Arts Guide	Reviews
Companies	25		18,19
Overseas	4	Commodities	38
Companies	27	Crossword	44
World Trade	4	Currencies & money	46

## US telecoms commission chief starts to flex his muscles



Mr Alfred Sikes, chairman of the Federal Communications Commission, has recently asserted his authority by launching a probe into competition within the country's long-distance telephone services, Page 7

## MARKETS

STERLING	New York lunchtime: \$1.8438
London:	DM1.6795
FFs:	1.644 (1.6375)
DM2.7275	(2.7375)
FFs:	2.275 (2.2625)
SPF:	4375 (2.43)
Y257.25	(250.5)
£ index:	87.1 (86.7)
GOLD	New York: \$380.7 (379.7)
London:	\$378.25 (375.25)
IN SEA OIL (Argus)	Brent 15-day Jun \$17.125 (16.50)
Chief price changes yesterday:	Page 23

DOLLAR	New York lunchtime: DM1.6795
FFs:	1.644 (1.6375)
DM2.7275	(2.7375)
FFs:	2.275 (2.2625)
SPF:	4375 (2.43)
Y257.25	(250.5)
£ index:	87.1 (86.7)
GOLD	New York: \$380.7 (379.7)
London:	\$378.25 (375.25)
IN SEA OIL (Argus)	Brent 15-day Jun \$17.125 (16.50)
Chief price changes yesterday:	Page 23

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John Metcalfe

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## EUROPEAN NEWS

## Airbus unveils plan to recover lost output

By Paul Bettis, Aerospace Correspondent, in Toulouse

THE executive board of Airbus Industrie, the European aircraft manufacturing consortium, is today expected to approve an aircraft production recovery programme.

The aim of the programme is to catch up as quickly as possible on lost output following the four-month strike at two British Aerospace (BAe) plants supplying wings for Airbus aircraft.

The UK strike was yesterday described by Mr Jean Pierson, the Airbus managing director, as one of the longest in civil aircraft history.

He confirmed the strike would cost the consortium \$180m-\$200m but he added that the internal dispute between the four Airbus partners over sharing the financial costs caused by the strike would not affect the production recovery programme.

BAe, which holds a 20 per cent stake in Airbus, could face a bill of between \$70m and \$80m if the other partners including Aerospaciale of France, MBB of Germany and CASA of Spain are successful in pressing claims that the British group should pay 40 per cent of the strike costs under article seven of the Airbus regulations. But BAe claims this article does not apply in the

event of a strike.

Assembly of Airbus aircraft fell to under one a month when the strike ended last March. He said output was expected to pick up to about four aircraft a month by June. The aim is to reach a monthly production rate of 10 A320 twin engine narrow body aircraft by the end of 1991 and four to five wide body A300-A310 aircraft by the autumn of next year.

Airbus production will fall short by about 30 aircraft of its target of 138 this year.

The pre-strike target for 1991 was 149 aircraft. To catch up, the consortium will have to produce 179 aircraft next year. This would entail above normal monthly production rates.

To help BAe to meet the recovery programme targets, Aerospaciale and MBB are planning to send to the UK about 30 French and German workers. Subcontracting some of its Airbus work to other companies is also being considered.

Mr Pierson also said Airbus would sign tomorrow an agreement with Aeritalia whereby the Italian state aerospace group would supply parts for the new A321 twin jet aircraft, a stretched version of the A320 to be assembled in Hamburg.

## Companies urged to invest in E Germany

By Lucy Kellaway in Brussels

WESTERN companies are missing valuable business opportunities in East Germany, and thereby may be endangering competitive conditions within the European Community, Sir Leon Brittan, competition commissioner said yesterday.

He bemoaned the fact that so far only West German companies have shown interest in investing in East Germany, and he called on companies from other countries to play a more active role.

He said that the absence of interested investors from outside Germany threatened to put the competition authorities in the difficult position of having to choose between letting eastern European companies collapse or allowing a merger with a West German company that would lead to a large reduction in competition.

Sir Leon, who was addressing

the Centre for European Policy Studies in Brussels, expressed concern that a rush of such mergers might preserve the domination of the structure in East Germany and reduce competition in West Germany.

Other countries were being put off investing there partly through a mistaken belief that the German authorities might wish to keep the area for their own companies, he said.

These companies were misreading the political risks involved, he said, and were failing to make the distinction between investing in East Germany "where you really know what sort of political regime will be there in a very short time," and other countries. "My impression is that people are not even engaging in the process of deciding if there are opportunities there or not," he said.

## Serb nationalists rebuffed in Kosovo

By Judy Dempsey in London

IN WHAT amounts to a rebuff to Serb nationalists, the Yugoslav authorities yesterday dropped all charges against Mr Armin Vlasti, former party leader of the southern Yugoslav province of Kosovo.

The charges against Mr Vlasti, who was accused of "counter-revolution" along with 14 other party officials for allegedly instigating demonstrations by ethnic Albanians last year, were dropped by the country's public prosecutor. No explanation was given.

The bloody demonstrations in Kosovo, in which 50 people were killed, were sparked off following sweeping amendments to the Serbian constitution which gave Serbia direct control over the province.

The changes were introduced by Mr Slobodan Milosevic.

Control by Serbia over Kosovo was aimed at stemming the flow of migration and at imposing a pro-Serb leadership.

But despite emergency measures to quash the riots and several attempts to obtain evidence against Mr Vlasti who first went on trial last October, Serbia's strong-headed policies deepened the sense of grievance among the ethnic Albanians who wish to regain their autonomy from Serbia.

## Strong car sales in western Europe defy forecasts

By Kevin Done, Motor Industry Correspondent

WESTERN European new car sales were running at a record level in the first quarter of 1990, continuing the longest period of sustained growth enjoyed by the western European car industry.

Sales in the first three months at 3.7m were 1.8 per cent higher than a year earlier, according to industry estimates.

In March alone sales were marginally higher at 1.35m, an increase of around 0.3 per cent, as continuing strong demand in France and Italy was balanced by falls in the UK and Spain and virtually unchanged sales in West Germany.

New car demand continues to defy industry forecasts that sales would weaken after five years of record sales.

New car registrations rose to nearly 13.5m last year and sales in each of the first three months higher than a year earlier.

In the first quarter new car sales rose in 11 of 17 markets across western Europe, including West Germany, Italy and France, while sales were lower than a year earlier in the UK, Spain, Switzerland, Sweden, Finland and Portugal.

In the fierce competition between the big six volume car makers in Europe, the Volkswagen group, which includes Audi and SEAT, which has led the European sales league for the last five years, gained further ground in the first quarter, outpacing Fiat of Italy.

VW's estimated sales volume rose by 6.5 per cent, while Fiat, which includes Alfa Romeo, Lancia and Ferrari, suffered a marginal fall in sales of 0.5 per cent.

Fiat, which is traditionally strong in the first quarter, outsold Volkswagen in the first three months, but the West German car group has significantly narrowed the first quarter gap compared with a year ago, and is on track to maintain its leadership of the European car market this year.

The main loser in the first quarter was the Peugeot group of France, which includes Citroën, with an estimated fall of 3.1 per cent in sales volume, a sharp contrast to the strong 6.2 per cent increase achieved by Renault, which is enjoying much faster growth in the rapidly expanding French market.

The sustained product-led growth achieved by General

## FRANCO-GERMAN DECLARATION ON EUROPEAN POLITICAL AND MONETARY UNION

## Bonn initiative behind ambitious target

By David Marsh in Bonn

YESTERDAY'S joint declaration by Paris and Bonn on European political and monetary union follows weeks of diplomatic effort by West Germany to head off Community worries about the effects of German unity.

The initiative came from Bonn. The document released yesterday simultaneously in the two capitals was worked out in telephone conversations between officials since the Easter holidays.

The goal of bringing both political and monetary union into effect by 1993 is highly ambitious. But Mr Helmut Kohl, the West German Chancellor, has been at pains to sketch out the maximum amount of common ground with Paris before next week's Franco-German consultations in Paris and the Community summit in Dublin on April 26.

Officials at the Chancellery in Bonn admit that relations between Mr Kohl and President François Mitterrand have been "damaged" by irritation in Paris over the momentum of German unity. The West German government, however, has constantly played down any question of a crisis.

The message intended by yesterday's statement is that, after several months of engine trouble, the Franco-German Community motor is back in full working order.

Mr Mitterrand has been annoyed by Mr Kohl's lack of consultation both on his 10-point plan for German unity

last November - which has now been superseded by events - and by proposals for German monetary union.

Clear indications of the President's misgivings came in his visit to Kiev in December to see President Mikhail Gorbachev, and his earlier trip to East Berlin and Leipzig.

Mr Mitterrand's tactics misfired. Both visits failed to have any effect on the breakneck pace of German unity.

There is a clear element of risk in proposals for political and monetary union by 1993. Yesterday's initiative was not discussed with the Bundesbank, which has voiced considerable scepticism in the past about the feasibility of speedy European monetary union.

The initiative will spark opposition from Britain, where Mrs Margaret Thatcher has already made clear her opposition to accelerating European integration.

In a conciliatory gesture to London, Bonn and Paris decided that yesterday's document should be published in English, as well as French and German to avoid the impression of a deliberate affront to the UK. Bonn officials say they hope that, by concentrating the Community's mind on political union, Britain can eventually be persuaded to play a fuller role in integrating the Community.

"Britain always jumps on the train in the end," is how one official puts it.

The Franco-German accord on monetary union follows a

meeting of minds at the two countries' bilateral Finance Council in Paris earlier this month. Mr Pierre Bérégovoy, the French Finance Minister, now says he agrees with Mr Kohl's ideas for a fully independent European central bank geared to price stability.

Mr Kohl and Mr Karl Otto Pöhl, the Bundesbank president, agree over transferring sovereignty to a European central bank. Significantly, they would both like it to be in Frankfurt.

The key question here is how many other Community members - including countries like Italy which have traditionally seen the central bank as a source of funds for the government - would agree to tough German criteria.

Another stumbling block will come over defence and security policies - one of the areas for discussion singled out in yesterday's document. Bonn is very unhappy that, in spite of the changed European power balance, Paris appears to have no new ideas on restructuring Nato.

Whatever the harmony propagated in yesterday's statement, German worries about France's short-range nuclear missiles, for instance, are almost certain to come up at the bilateral summit in Paris next week.



Kohl (right) and Mitterrand: Bonn-Paris axis back in harmony

## E Germany announces reforms

By Leslie Collett and agencies in East Berlin

MR GERHARD POHL, East Germany's Economics Minister, yesterday proposed a bold package of economic reforms aimed at the creation of free markets.

The measures would make it possible for private companies and banks to operate freely from the end of May.

Speaking to reporters after talks with Mr Helmut Haussmann, his West German counterpart, Mr Pöhl explained that a law giving people freedom to set up businesses should be on the statute books by the end of May, while a new banking law would allow private banks for the first time.

His radical proposals followed a speech by Mr Lothar de Maizière, the new Christian Democratic Prime Minister, who yesterday presented his coalition Government's programme to the Volkskammer (Parliament).

In a somewhat more cautious tone he was aiming to reassure East Germans that they would not lose out economically during the unification process.

Mr de Maizière said his Government aimed to create 500,000 jobs this year in new medium-sized private companies to compensate for expected mass redundancies in state

industries. Favourable tax conditions would be created for small and medium-sized private sector firms as well as for German and foreign investors.

With pending German monetary union, he called for the elimination of all domestic debts of East German private and co-operative companies to improve their competitiveness.

The plan was to convert state company debts, which total East Marks 200m, at "at least" two East German Marks for one D-Mark. However Mr de Maizière insisted that wages, savings and pensions be converted into D-Marks at one-to-one.

## Gloomy view from inside privatised industry

Leslie Collett talks to a factory owner back in his old office

MR KURT RICHTER, owner of the largest nationalised factory in East Germany to be privatised, sees a painful transition period for East German industry on the road to a market economy.

Elitz, the country's largest producer of aluminium window-frames, with sales of more than 40m East Marks last year, was nationalised in 1972 with 11,000 other companies. It was returned to the Richter family on April 1.

Seated in the same East Berlin office that he and his father used to occupy before nationalisation, Mr Richter forecast that East German industrial output would plummet after monetary and economic union with West Germany, which is to take place by July 1.

Industrial production has already fallen by 4.7 per cent in the first quarter and Mr Richter believes that most of the huge and unwieldy Kombinate (industrial groups) will not be viable even after they are broken up.

"I'm afraid we will get millions of unemployed and that it

will take three to five years before new companies will begin production," he said.

He hopes to keep redundancies in his own company to a minimum by moving administrative personnel into production.

Mr Richter was given a warm welcome by his former employees who remained loyal to him to the end.

He said he was firmly opposed to the proposal under monetary union raised in Bonn for a one-to-one conversion rate for East German companies. Most of them were saddled with heavy debt and would have to make repayments in D-Marks after July 1.

A two-to-one rate was barely acceptable.

However he was in favour of paying employees at a one-to-one rate, which would act as an incentive. His own 350 employees earned an above-average 1,500 Marks gross a month, still less than half the prevailing West German wage. The obsolescent machinery in the factory meant their productivity was also half that of equivalent

West German workers. Wages could only rise in line with productivity gains, he said.

Throughout the 18 years of nationalisation the state paid his family 10,000 Marks a month compensation minus a large chunk in taxes - the Richters never gave up hope of regaining control of their 100-year-old family-owned company.

Along with many others they were forced in the late 1980s to give the state a commanding share in the company - in their case 90 per cent - to obtain investment funds. They are repaying the 10 per cent share they surrendered in 1972 and will buy back the state's 90 per cent share as well.

Mr Richter said prospects were excellent for his own company and other small and medium-sized firms. He was already co-operating with several West German companies and was in line to receive West German European Recovery Programme (ERP) funds for East German entrepreneurs to buy desperately-needed machinery and tools.

## Renault fails to persuade Brussels in state aid row

By William Dawkins in Paris and Lucy Kellaway in Brussels

RENAULT, the French state-owned car maker, yesterday denied it was contravening European Community state aid restrictions, amid signs that the Commission is about to demand repayment of part of a FF1.12bn government debt write-off.

EC competition authorities are understood to be unconvinced by a report on Renault's restructuring plans submitted by the French Government in February, and to have asked for more details. Commission officials expect to reach a decision within weeks on the two-year-old dispute, one of the biggest and most sensitive EC state aid cases.

Renault accepts that the 11.5 per cent reduction in car-making

capacity it has made over the past three years is below the 15 per cent originally set by the Commission as a condition for receiving the debt write-off. But it maintains that it will hit this target by the end of 1992, when it has completed the closure of two plants in Billancourt, near Paris and in the Spanish town of Valladolid.

It will fulfil the other condition, the abolition of its old state-protected status as a "régie", as a result of the alliance with Volvo, the Swedish car group.

Commission officials stress that while Renault's proposals are probably unacceptable, they are still negotiating with the Paris Government.

## French banks to report drug laundering suspects

By William Dawkins

FRENCH banks will be obliged to report suspicions that accounts are being used for laundering illicit drug earnings.

A report yesterday said that up to \$55.4bn of drug money is laundered in the US and Europe every year.

The French plan is the first practical result of a 15-nation action plan against money laundering, the initiative of the Group of Seven summit in Paris last July.

Experts yesterday unveiled the study which reckoned that sales of heroin, cocaine and cannabis in Europe and the US were \$122bn a year, of which between 50 and 70 per cent is laundered or laundered.

The study, which accuses

banks of frequently being unwitting accomplices in the recycling of illicit cash, makes 40 recommendations, including the lifting of bank secrecy for suspect accounts.

The French government will table proposals before parliament next month.

The French proposal applies to any financial intermediary, whether bank, stockbroker, or insurance company. They will be asked to pass their suspicions to Tracfin, an anti-laundering unit set up in the French Finance Ministry last January.

At present, French banks risk being sued for breaking confidentiality laws unless a police investigation is already under way.

## Nations divided on global warming cure

By John Hunt, Environment Correspondent

ENVIRONMENT ministers of 34 countries will try to agree targets for reducing the greenhouse gases which cause global warming at an international conference in Bergen, Norway, next month.

However, there are still wide differences of opinion between governments on the size and timing of the reductions.

The US, Canada and European countries will be represented at the conference, Action for a Common Future. It is a follow-up to the Brundtland Report of 1987 which called for sustainable economic development that will not damage the environment. The conference will seek international agreement and national commitments on ways to achieve this.

The draft declaration proposes that governments should tax environmentally-damaging products and activities and give fiscal incentives to discourage pollution. "Such actions would make prices, particularly those related to energy, reflect environmental costs and benefits more fully and thus send markets signals and provide incentives," it says.

The US will find it difficult to accept some of the proposals now that President George Bush is taking a cautious approach to global warming.

The British Government could also find it hard to accept some of the proposals before its own white paper in the autumn, which will include economic measures to deal with environmental pressures.

The draft contains two alternative proposals to control emissions of carbon dioxide from the burning of fossil fuels, the main contributor to global warming.

The first, milder proposal, is to agree on stabilisation as soon as possible at levels to be considered by the Intergovernmental Panel on Climate Change and the Second World Climate Conference later this year. The second, tougher, proposal is to stabilise emissions at present levels by 2,000 as a preliminary target.

There is, however, a third, even more controversial, suggestion that there should be an investigation into whether a 20 per cent reduction in carbon dioxide emissions by the year 2,005 is feasible, as recommended by scientists at the Toronto Conference in 1988.

The draft calls on governments to promote energy efficiency and the use of environmentally sound energy sources, and it urges that capital and environmental technology should be provided to eastern Europe and developing countries.

## No let-up, Polish PM tells Solidarity

By Christopher Bobinski in Gdansk

SOLIDARITY, Poland's trade union movement, tried yesterday to turn its back on the tribulations of the martial law years and celebrate its new-found position as the country's leading political force at its congress here.

Some 450 delegates representing just under 2m members gathered for the six-day congress in the Olivia Hall where they had last met in September 1981.

But the harmonious atmosphere inside the hall was marred by a tram-drivers' pay strike in the city which local Solidarity leaders had failed to head off.

Outside the hall, radical critics of the policies of Mr Lech Walesa, the Solidarity leader, handed out leaflets declaring "Down with price rises" and "Down with the Soviet Occupation" - a reference to the continuing presence of Soviet troops in Poland.

At the congress, delegates applauded Mr Walesa, who is standing for re-election, as he told them that they were to elect a leadership for the union to prepare a programme for the future.

Mr Tadeusz Mazowiecki, the Prime Minister, pledged that his Government "served the union's cause which was that of a free and independent Poland." But he gave no hint that he would be easing his international monetary fund-approved austerity programme and warned against giving in to "populist" solutions.

The Czechoslovak parliament has approved long-awaited laws permitting private enterprise and the establishment of joint stock companies. Reuter reports from Prague.

The approval of government draft bills came late on Wednesday as the Federal Assembly discussed a welter of reforms designed to lead Czechoslovakia towards a market economy.

## Turkey expels

## W German envoys

TURKEY yesterday asked West Germany to withdraw eight diplomats from Ankara, apparently in retaliation for the expulsion of 15 Turkish diplomats from West Germany recently, writes Jim Bodgener in Ankara.

The Turkish diplomats were said to have been gathering information on suspected Turkish extremists and Kurdish activists.

## Banks to boost Mediterranean clean-up loans

By David Thomas, Resources Editor

THE World Bank and the European Investment Bank yesterday proposed a substantial increase in loans or projects to improve the environment in countries bordering the Mediterranean.

The two banks, which made environmentally-related loans of \$5.6bn in the Mediterranean region in the 1980s, unveiled plans in Rome to boost environmental projects in the 18 Mediterranean countries.

The plan includes control of marine pollution from the oil and chemicals industries, improving the management of solid and hazardous wastes, halting decline of coastal areas and improving water resources.

These projects are set out in a 93-page environmental programme for the Mediterranean.

The document warns of the environmental problems facing the region, including the discharge of 500 tons of pesticides and 650,000 tons of hydrocarbons every year into the Mediterranean. Pollution and over-fishing have cut fish stocks to 20 per cent of natural levels in many areas, it says.

The Environmental Programme for the Mediterranean. World Bank, 66 Avenue d'Iena, 75116 Paris, France.

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## LITHUANIAN BLOCKADE

## Prosperity under Moscow's aegis — at the price of intimate linkage

Under Gorbachev, the Lithuanian economy has grown more than any other republic, but so has its dependence, writes Michael Kaser

**T**HE Lithuanian economy under Soviet rule, and in particular during Mr Mikhail Gorbachev's tenure of the party leadership, has been remarkably successful. Its gross national product per capita in 1989 was some \$6,110 — which was 8 per cent above the Soviet average and better than its Polish neighbour.

Predominantly agrarian during inter-war dependence, it gained its capital city, Vilnius, and a substantial industrial base under the aegis of Moscow. The price of course was intimate linkage with the Soviet economy.

Growth in the five years of perestroika has been more rapid than in any other Soviet republic. The 1989 index of net material product (the official Soviet aggregate — which excludes many of the services counted in gross domestic product) was 26 per cent higher

than in 1985 (compared, incidentally, with a target increment of 16 per cent in the republican breakdown of the Five-year Plan to 1990), whereas the index for the Soviet Union as a whole was 11 per cent.

## Because industrial expansion has been both recent and rapid, its capital stock is more modern by Soviet standards and is more efficiently used

Because industrial expansion has been both recent and rapid, its capital stock is more modern by Soviet standards and is more efficiently used. This is evident both from the 1989 increment in industrial output per worker (at 5.9 per cent the second-highest Soviet republic and comparing with 3.1 per cent as a whole) and

from better incremental capital-to-output ratios. Lithuania's dependence on outside sources can be assessed from a few key aggregates. With a net material product in 1988 of 9.2bn domestic roubles, exports of Rbs5.9bn

fell short of imports of Rbs7.5bn by Rbs1.5. In other words its import deficit with the Soviet Union and with the rest of the world was 16 per cent of material production. Almost exactly half the deficit was with the Soviet Union and the other half in foreign trade. Calculated in foreign exchange roubles and in world market

prices the 1988 import deficit amounted to Rbs229m, or 2.21bn at that year's official exchange rate. This is a modest sum if Scandinavian countries were willing to cover Lithuanian external needs.

But it is the links to the Soviet Union that are difficult to replace. Oil and gas showed a deficit of Rbs563m in 1988, Rbs583m for metals, Rbs467m for chemicals and Rbs824m for equipment. Recent figures in volume terms are not to hand but in 1988 Lithuania had a net intake from the rest of the Soviet Union of 38.7m tonnes of primary energy in terms of coal equivalent. Its sole domestic production is the nuclear power at Ignalina (two reactors of the Chernobyl type of 1500MW each, commissioned in 1983 and 1986 but thereafter not increased as intended, because of public protest) and

a hydroelectric station at Kaiadioris of 1600MW.

A little heat is extracted but domestic heating is principally coal and gas — Lithuania has total energy consumption of 19.1m tonnes of coal equivalent. Only 1.9m is used for petrochemicals, at the huge complex of Maziekiai: cessation of that production would not therefore release a great deal for use as fuel.

Import of oil through the one port of Klaipeda is limited because it is not equipped for bulk liquids (Soviet oil is exported through the Latvian port of Ventspils to the north) and gas can only come in through the pipeline from Minsk. Supplies of gas to the Kaliningrad region (the northern part of former East Prussia) have to pass through Vilnius, which may preclude a complete cut-off. Switching Lithuania out of the national

electricity grid is far from straightforward, not only technically, but because the republic exports 2.2 times as many KWh as it receives.

Lithuania's main industries depend on Soviet supplies: its plastics factories receive 83 per

products, milk and milk products and fish are only partially offset by fruit and vegetables, sugar and vegetable oils.

Those foodstuffs, together with textiles and electronic products would form a saleable list for western exports. But

The Soviet authorities have made a point of demonstrating that, because energy is seriously underpriced in the home market, Lithuania would have to pay much more if it purchased the same quantities of oil and gas at world prices. A recently published estimate by Moscow economists claims that there would be a deficit (calculating on 1988 deliveries) of 9,887m foreign-exchange roubles (just on \$3.5bn) if all Lithuanian supplies had to be foreign traded. In Western economy terms, this is still not a vast figure, but it is a measure of Lithuanian dependence that it cannot meet such sums off its own bat.

Michael Kaser is Director of the Institute of Russian, Soviet and East European Studies at Oxford University and a Professorial Fellow of St Antony's College.

## Conflicting constraints leave little room for Soviet leadership to manoeuvre

By John Lloyd in Moscow

**T**HE SOVIET leadership has sought to manoeuvre between a series of tight constraints which surround its actions over the issue of Lithuania's independence.

These are:

● The need to safeguard the integrity of the union at a time of rising nationalist feeling;

● The desirability of reassuring Western leaderships that Lithuania will not disrupt either the democratisation process, the forthcoming US/USSR summit, or the Helsinki process;

● The imperative of so targeting sanctions on Lithuania that they will have a minimal disruptive effect on the Soviet economy as a whole.

The various and differing interests which surround each of these aims in large part accounts for the contradictions in the Soviet response.

In the first place, Mr Mikhail Gorbachev, the Soviet President, has insisted that all nationalist sentiments be contained within the law and the law now includes a recently adopted bill on secession, which specifies the holding of a referendum and a five year

"divorce" process. Any attempt to short-circuit this process, he and other officials have made clear, cannot be tolerated because of the example it would give to other republics.

So far, this line has not worked. The Lithuanians remain adamant that they will not rescind their declaration of independence made on March 11, and are now taking the economic blockade as a sign that the USSR treats the republic as a separate country.

This continued defiance makes the second objective harder: that of reassuring world opinion that the Soviet authorities remain committed to peaceful persuasion.

In seeking to do so, the Government has come close to mendacity. Mr Eduard Shevardnadze, the Foreign Minister, assured Mr Douglas Hurd, the British Foreign Secretary, that economic sanctions would not be applied two days before they were: he later told Mr Gianni De Michelis, the Italian Foreign Minister, that he thought of Lithuania as of an east European state — that is, presumably, independent. This soft line runs in parallel

with another which blasts the "propaganda campaign" against the Soviet Union mounted by public figures and the media in the West, who are calling for tougher action against the USSR. This line in turn is kept sharply distinct from another, which distinguishes the actions of governments, especially that of the US, from such "propaganda". Mr Pavlov was at great pains to insist that the communications with the US administration were in good working order.

It may be that the Soviet leadership has concluded that it still has some room with the West for manoeuvre, and it may be right. European Community parliamentarians in Moscow to meet senior officials thought their governments would confine themselves to rhetoric up to the point of military action.

The final aim — of targeting sanctions only on Lithuania — is probably impossible to achieve. Soviet economists have already pointed out that the republic is a monopoly supplier of some high-tech components, and a large supplier of

electronic consumer goods, food and cement.

Its oil refinery supplies Latvia, Estonia and the Russian Baltic strip round Kaliningrad: the larger enterprises, which would be hardest hit, are precisely those where most of the non-Lithuanians (mainly Russian) work. A tightening of the screw on one Baltic republic which affected the two others could only further inflame anti-Soviet feeling.

The Soviet economy is an integrated one: the Soviet authorities have made this point often enough against the nationalists, and are now realising it works two ways.

The core of the matter seems to be this: how to find some way of starting talks, as in Latvia and Estonia, while saving face.

The latest Lithuanian offer of a freeze on all further legislation may be extendable: the Soviet side may be willing to consider the removal of bases. Both sides have too much to lose to stay impaled on intransigent positions: but they may nevertheless remain on them, for lack of a good wheeze to get them off.

## Norway's guests are kept at arm's length

By Robert Taylor and Karen Fossil in Oslo

**"PURE COINCIDENCE"** is how Lithuania's foreign minister, Mr Algirdas Soudargas, described the timing of the Lithuanian Government's visit to Norway — Europe's second biggest oil producer — and the onset of the Soviet oil and gas blockade of his country.

But Mrs Kazimiera Prunskiene, the republic's Prime Minister, made clear she hoped her talks in Norway would lead to an agreement to provide oil supplies for Lithuania.

Yet from the moment she arrived at Oslo airport on Wednesday, Norway's centre-right coalition government, the parties of which are hosting her trip, has sought to keep her at arm's length. "The parties in the government invited the Lithuanians here and now it seems they don't want even to touch them," one observer said.

The Lithuanian delegation had contacted neither the Norwegian Government nor any of the country's oil companies by late yesterday. Further, Statoil, the Norwegian state oil company, believes Mrs Prunskiene is being "unrealistic" in seeking oil supplies because of problems involved in trans-

porting oil from the Lithuanian port of Klaipeda, some 300 miles from the country's one refinery.

Statoil cites two problems. The pipeline from the port to the refinery is designed to carry petrochemical products, not crude oil, and the port facilities are too small to cope with Norwegian tankers. Mrs Prunskiene's visit to Norway is turning into an embarrassment for Mr Jan Syse, the country's prime minister. Some observers believe his handling of the affair shows a lack of sureness in dealing with a sensitive international issue.

Norwegian ministers persist in saying the Lithuanians are guests of the parties which comprise the government, rather than of the government itself — a distinction proving somewhat confusing to the outside world, notably the Soviet Union.

The Lithuanians are the sponsored guests of an umbrella organisation called Give Democracy A Chance in The East, a group set up in February by three constituent parties of the present Norwegian government — the Conservatives, Christian People's

Party, and the Centre Party.

The movement's aim is to offer financial and other help to emerging eastern European democracies. It offered backing to Hungary's Democratic Forum in the recent elections and to the Christian People's Party in Slovenia's recent contest. Right-wing parties in Czechoslovakia and Romania are also being helped by the group, which has so far raised \$100,000 for its project. Its invitation to the Lithuanians was its first contact with Soviet

organisations.

It springs from the Norwegian Conservatives' seeking to strengthen their international activities. Some observers believe it is intended to boost the falling popularity of the centre-right coalition, in power since last October.

The invitation was sent on April 5, but unfortunately for Mr Syse and his centre-right colleagues, the Lithuanian crisis has escalated rapidly and Norway suddenly finds itself uncomfortably placed.



Jan P. Syse, Prime Minister of Norway, welcomes Lithuanian Premier Kazimiera Prunskiene yesterday

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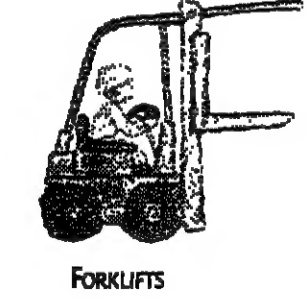
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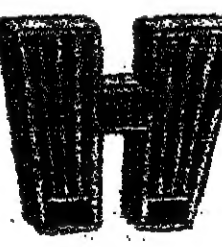
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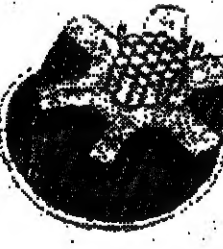
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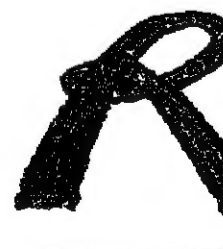
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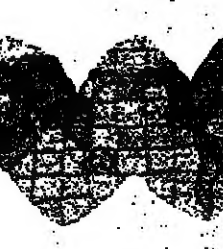
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## OVERSEAS NEWS

## HK says Chinese support for new airport is vital

By John Elliott in Hong Kong

HONG KONG'S plans to build an international airport as part of an ambitious 15-year HK\$12.7bn (£1.0bn) infrastructure construction programme could be put at risk if the colony's government fails to persuade China officially to give its support.

This was tacitly admitted yesterday by Sir Piers Jacobs, Hong Kong's financial secretary. He said he was "entering a dialogue" with China because its support was "necessary" to attract international private sector financial and other participation in the project.

The airport is urgently needed to replace the existing overcrowded Kai Tak airport which will reach saturation point within four to five years. It is estimated to cost HK\$3.5bn, plus HK\$200m-HK\$400m for associated transport links and developments, and is scheduled to open on reclaimed land in 1997 just a few months before Hong Kong reverts to Chinese sovereignty.

But Peking's leaders including Mr Li Peng, the Prime Minister, and Mr Jiang Zemin, Communist Party Secretary, have questioned the cost and financial viability of the project and have called for detailed information about the project.

The Chinese leaders are also believed to be annoyed that the



Jacobs: dialogue with Peking

HK\$12.7bn projects were announced last October as part of a package of controversial measures designed to boost confidence after June's Tiananmen square crisis.

"We need support from China in that we need them to say they are happy with the project," said Sir Piers. "My

talks have been with the New China News Agency (Peking's de facto local embassy) but I expect them to go beyond that."

He was looking for a "firm decision" from Peking and could not see why support should be withheld "when they see the whole package." There was no question of asking Peking for financial backing.

In an apparent attempt to maintain substantial international business interest, Sir Piers also claimed that "at a pinch" Hong Kong could build the airport from its fiscal reserves which total HK\$7.1bn. But he partially contradicted this when he also revealed that he had promised China that Hong Kong would be handed over in 1997 "with a viable international airport and full coffers." He said this meant "substantial reserves and a balanced budget."

The government is now awarding the first of approaching 20 consultancy contracts to international companies and has also invited international groups to express interest in building and operating a HK\$6.5bn associated suspension bridge or tunnel.

Sir Piers said that studies showed that not building the airport would cost Hong Kong HK\$100bn by 2010 in lost business and economic growth.

## S African deaths may halt talks with ANC

By Patti Waldmeir in Johannesburg

SOUTH African police shot dead four black youths and wounded about 20 during a demonstration in a black township yesterday, in an incident that could jeopardise next month's negotiations between Pretoria and the African National Congress.

Black activists in Ramu-lotal township about 200km south of Johannesburg said four boys aged between 13 and 16 were killed when a peaceful march was stopped by a van load of policemen who opened fire on the crowd.

Police said the youths refused two requests to disperse and then began hurling stones at the officers.

Mr Nelson Mandela, deputy president of the ANC, last week warned that he would call off negotiations due to begin on May 2 unless the government prevented incidents such as yesterday's shooting.

In Cape Town Mr F W de Klerk yesterday reiterated his government's commitment to abolish apartheid legislation, but made clear the process of removing discriminatory laws could be lengthy.

In a cautious speech to a joint sitting of parliament in Cape Town Mr de Klerk outlined his government's plans for replacing the so-called four pillars of apartheid - laws governing segregation of public amenities, residential segregation, ownership of land and race classification.

He reiterated a commitment given last year to abolish the so-called Separate Amenities Act during the current session. But legislative proposals to replace the Group Areas Act, which governs residential segregation, would not be introduced before next year at the earliest.

Action on the Land Acts, which legislate ownership of land, would also not be immediate, he implied, noting that the acts would be on the agenda for talks with the ANC. He hinted that race classification legislation might be the last to be abolished.

Mr de Klerk has long made clear the process of abolishing apartheid legislation would involve lengthy negotiation with black leaders.

## Time is up for Taiwan's 'old thieves'

Peter Wickenden explains why old nationalists are being forced out

TIME is up for the scores of gerontocrats who habitually snore their way through debates in Taiwan's parliament if they are in a fit state to attend at all.

It appears that the ruling Kuomintang (nationalist) party now means business in removing the 125 KMT members of parliament who have been frozen in office for the last four decades without once facing re-election.

Dubbed "old thieves" by the opposition Democratic Progressive Party, their attempts to prove that their forced removal is illegal are likely to prove futile.

Application forms for retirement are to be sent to all of them, and if the oldest group does not fill them in and post them within six months, KMT officials will take the liberty of doing it for them.

Several said they would hang on to the bitter end and demand public recognition of their willingness to step down.

Those affected by the retirement plan announced on Wednesday range in age from the 70 years of the speaker Liang Su-jung to the 92 years of Chen Shue-wo, who "represents" the people of Peking.

Elected on mainland China in 1948 just before the nationalist government lost a civil war to the communists, the old guard were kept in office after the regime moved to Taiwan.

The purpose of this was to justify the Taipei government's claim to be the sole legitimate Chinese government, but in recent years they have become a political millstone round the KMT's neck.

In response to public dissatisfaction with Taiwan's internal national diplomatic isolation and lack of local democracy, the KMT originally planned a complete rejuvenation of parliament by successive elections, ending up in 1982 with a small parliament of 150 elected members.

But the KMT had not expected public patience with the

old guard to run out as suddenly as it did in March. The outcry at attempts by aged members of the electoral college to increase their power over the legislature and quadruple their pay put the survival of the KMT regime itself at stake for the first time since 1949.

Some analysts say that frustration with the rate of reform was heightened by the successive fall of socialist governments in Eastern Europe.

Upon his recent unopposed re-election as president Mr Lee Teng-hui set the wheels in motion for the removal of those octogenarians who had voted him into office. His own position may well become symbolic if the island adopts a traditional parliamentary system of government after an emergency national conference to be held in June.

Even the DPP leaders now say they do not doubt the KMT's sincerity in bringing about radical reform, but members of both parties are still

calling for the law to be changed to make retirement of the old guard officially compulsory.

In an attempt to show gratitude and respect, the KMT will let the old-timers continue running the legislative building by giving them free use of its facilities. They are also to be made "advisors" to the party.

Of parliament's 268 members, 139 were elected in mainland China in 1948, or appointed to replace those who died. Some 101 have been elected in Taiwan, and another 29 were appointed by the president to represent overseas Chinese communities.

Proposals are also being drawn up for the retirement of the 600-odd aging nationalists in the national assembly. But they will not be forced to retire just yet for the assembly itself must have to meet one more time after the emergency national conference to vote for its own abolition and the direct election of the president.

## KING BIRENDRA SWEARS IN PREMIER

## Nepal ends absolute monarchy

By K K Sharma in New Delhi

KING Birendra of Nepal yesterday administered the oath of office as Prime Minister to Mr Krishna Prasad Bhattarai of the Nepal Congress, ending 30 years of absolute rule by the monarchy in the Himalayan kingdom.

It was the culmination of a long struggle for restoration of democratic rights since 1980 when the country's political parties were banned and a "partyless form of democracy" introduced. The struggle entered its final and most violent phase in February since when more than 200 people lost their lives in attacks by the army and police during.

Mr Bhattarai heads an 11-member coalition which includes members of the Nepal Congress, the Communist party, two nominees of the king and two non-party public figures. The Nepal Congress and the communists worked together in the struggle for democracy and it now remains to be seen how they function in the new cabinet.

The communists are part of the government for the first time in Nepal.



Prasad Bhattarai: new era

national monarch.

Mr Bhattarai has retained the portfolios of defence and foreign affairs himself. One of his main tasks will be to finalise early agreements with India on trade and transit since the lack of these for more than a year has seriously disrupted the Nepal economy.

Talks on the agreements, including revision of a 1950 treaty in which a special relationship was agreed between the two countries, were held recently. Finalisation of the agreements was held up by the political upheaval in Nepal.

The often violent movement for restoration of democracy had mass support and King Birendra was compelled to concede the formation of the all-party interim government following attempts to storm the royal palace a fortnight ago.

That he gave in has enabled him to retain his throne. Inclusion of two of his nominees in the cabinet suggests the political parties wish to avoid a confrontation with the king who is worshipped by his Hindu subjects as the reincarnation of the god Vishnu.

## Colombo lifts emergency laws

THE government in Sri Lanka yesterday announced it was removing the ban on political rallies and repealing other emergency laws in an effort to restore normalcy after years of violence, reports Mervyn de Silva from Colombo.

The move is also a response to mounting criticism from the country's main opposition parties and from international and local human rights groups.

The Sri Lankan army and police said they were certain that the security situation in the (Sinhalese) south would continue to improve. In the Tamil north, the ceasefire between the government and the Tamil Tigers has not been seriously breached.

## NZ inflation falls

New Zealand's underlying annual inflation rate was between 4.4 per cent and 4.6 per cent at the end of March, reports Dal Hayward from Wellington. Mr David Cayll, Finance Minister, said the fall showed Labour's policies were producing results and should help cut interest rates, running at around 14 per cent.

## Moscow seeks help on Kuriles

By Robert Thomson in Tokyo

THE Soviet Union will today present Japan with a plan for the joint development of the disputed Southern Kurile Islands in an attempt to improve relations between the two countries.

Mr Vladimir Petrovsky, the deputy Soviet foreign minister, said yesterday he would reveal plans for the ecological and economic development of the islands, referred to in Japan as the Northern Territories, which Tokyo says were illegally occupied in the last days of Second World War.

"We are a little bit disappointed with the state of relations with Japan. We have full diplomatic relations, but economic relations are lagging behind. We suggest as a

starting point the establishment of joint ventures in areas of mutual concern," Mr Petrovsky said.

He said was hopeful Tokyo would be interested, although participation in such projects would amount to recognition of the Soviet presence on the four disputed islands.

Japan has refused to sign a peace treaty with the Soviet Union until the islands are returned and has hinted that a return could herald a flood of Japanese investment in the Soviet Far East. Mr Petrovsky said yesterday that joint ventures now could lead to broader agreement later on a peace treaty.

He said Moscow intends to play a greater role in Asia, and

would like to establish improved "multilateral" ties among the disparate countries in the region, and, in particular, to develop "preventative diplomacy."

As for the development of the far eastern port of Vladivostok as an economic centre, Mr Petrovsky said the government was still pushing Mr Mikhail Gorbachev's plans to open the city, now the site of an important naval base.

"I cannot tell you when we will open Vladivostok, but if President Gorbachev gives his word, it will become a reality. We have to remove a lot of the old structures and deal with a lot of agencies that have interests in the city," he said.

## WORLD TRADE NEWS

## Ottawa's Gatt plan depends on success of Uruguay Round

By Peter Montagnon in Puerto Vallarta, Mexico

CANADA'S PLAN to reform the General Agreement on Tariffs and Trade depends on a successful outcome to the Uruguay Round of multilateral trade negotiations and cannot substitute for a failure.

This point will be stressed in Puerto Vallarta, Mexico, today by Mr John Crosbie, Canada's Trade Minister, when he presents the plan to fellow ministers here.

The plan, which assumes that a successful Uruguay Round would place extra responsibility on the Gatt, calls for the Geneva-based body to be converted into a fully fledged world trade organisation.

Canadian officials say a central element involves the creation of a more consistent and effective dispute settlement system, replacing the variety of arrangements that currently span the Gatt and its subsidiary codes of trade practice.

The new organisation would also be responsible for making the world's trading system more transparent, with a stepped-up scheme for surveillance of individual country policies.

This would help enhance its status relative to that of the International Monetary Fund and the World Bank.

Though the plan has met an interested response from many of the participants at the trade ministers' meeting here, most feel that detailed discussion should wait until after the Uruguay Round is completed.

Canadian officials acknowledge that discussions of the proposal should not distract from the substance of the Uruguay Round negotiations.

But they believe that thought should be given to the effect on the trading system of the round's wide-ranging agenda.

The procedure would incorporate a right of appeal against a panel decision, though the

result of such appeals would be binding.

Arbitration arrangements, also binding, would be put in place to deal with cases where two countries disagreed about the amount of compensation an injured party could claim as a result of its right being violated.

Canadian officials believe cases involving compensation would be rare.

The primary objective of the dispute settlement process would still be to persuade an offending party to abandon the practice which had been found to be illegal.

The dispute settlement system would be largely unified, covering all areas of the new organisation's responsibility from trade in goods to services and intellectual property right protection.

This would in theory allow what are called cross-sanctions, where countries who have suffered injury, say, in the services area could exact compensation by withdrawing privileges from the offending party's trade in goods.

However, the Canadian officials said cross-sanctions are controversial.

Although they exist in national laws, notably the US Trade Act, there would be strong opposition from developing countries to the idea that they might be denied access to the textile markets of industrial countries if they refuse to open their own markets to financial services.

Thus, the new dispute settlement system could not be fully unified and would have to embody an element of flexibility.

This would be one area for further discussion, the officials said.

Another would be the question of how far the new organisation should aim to attract a universal membership.

This universal membership might include even countries with different economic systems, such as the Soviet Union.

Though there are attractions in having universal membership, there are also risks because it could entail watering down the basic rules.

## Hills avoids Tokyo clash on amorphous metal imports

MRS CARLA HILLS, US Trade Representative, has sidestepped a potentially troubling trade case over imports of amorphous metals, while getting Tokyo to agree to immediate talks, Nancy Dunne reports from Washington.

With the US under fire from its trading partners for unilateral actions, Mrs Hills convinced a New Jersey company, Allied-Signal, to withhold a petition against Japan.

Instead, she promised to get a settlement within 150 days or let the company refile its complaint with no time lost for the usual investigation.

Allied-Signal, which filed the case in March, complaining it had been excluded from the Japanese market for electronic transformers using amorphous metal alloys, said it had taken 11 years to get a patent for its product in Japan, and in that time, Japanese companies had duplicated its technology.

It charged the government with organising and funding an amorphous metals group under the Japan Research and Development Corporation to spur development of a competitive product. Japanese electric utilities, it claimed, were urged not to buy transformers containing Allied-Signal's product.

The Trade Representative's Office said the talks were "a means to find solutions, and do not imply any judgment by either government on the facts of the matter."

## Turkey approves two car ventures

TURKEY'S cabinet has approved two investment packages involving foreign car makers. Mr Mehmet Yazar, government spokesman, said yesterday, Jim Bodgener reports from Ankara. The projects, by Toyota and Peugeot/Citroen, have combined investment costs of \$650m (£382m).

Toyota's local partner eventually to assemble 100,000 commercial vehicles a year is Bael Omer Sabanci Holding. Japan's Mitsui may take a 10 per cent stake. Peugeot/Citroen's partners include Polly Peck International of the UK, owned by Mr Asil Nadir, a Turkish-Cypriot entrepreneur, and Cukurova Holding.

## Canada upsets Cairns Group applegart

Proposal for tighter import controls angers fellow-exporters, writes Bernard Simon

A RIFT HAS opened in the Cairns Group of agriculture exporting nations over a Canadian proposal to tighten General Agreement on Tariffs and Trade rules which provide for import controls to reinforce food supply management systems.

The proposal, tabled in Geneva last month, has highlighted Canada's delicate position as the only big food importer in the Cairns group, whose 13 other members include Australia, New Zealand, Argentina and Thailand.

Although Canada, as one of the world's leading grain exporters, enthusiastically subscribed to the group's original goal of halting the grain subsidy war between the US and the EC, its position has become increasingly uncomfortable, since the group has evolved into a "third force" to protect food-exporting countries' wider interests in the Uruguay

Round of multilateral trade negotiations. The chief aim of the group, whose members are all substantial food exporters, is to liberalise world trade in agriculture.

An official of one member country described Canada's position on supply management as "unfortunate", especially since the group has tried to accommodate Canadian concerns in its own proposal that countries be allowed to maintain internal support measures in accordance with any new Gatt rules.

The Canadian position on supply management - through production quotas and marketing board control over prices - is a response to much wider commercial and political pressures on the government of Mr Brian Mulroney, the Prime Minister. These include the US-Canada free trade agreement and concerns about the constitutional future

The proposal has highlighted Canada's delicate position as the only big food importer in the group

suggested that import quotas should be permitted only when uncontrolled imports threaten to undermine curbs on production and marketing of fresh produce; and when a "reasonable and predictable balance" is maintained between countries applying supply controls, and farm-exporting nations.

Production levels would have to be set in advance, with stiff penalties for over-production and severe limits on exports. A senior Canadian official said: "We're in a unique position in the Cairns Group. It's fairly easy to be facile about free trade if you're not a major importer."

Besides sugar, horticultural items and some dairy products, Canada imports large quantities of processed foodstuffs, especially from the US.

The Canadians, who recently had their knuckles rapped by a Gatt panel for maintaining import controls on yoghurt and

ice cream, insist that the new proposal would require significant sacrifices on their part, including a readiness to allow imports of some hitherto-banned items, such as butter.

Among Ottawa's chief concerns is the provision in the free trade agreement eliminating all customs duties between the US and Canada by early 1998.

Without some other form of protection, Canadian food processors, whose raw materials come from high-cost domestic producers sheltered by farm-marketing boards, are especially vulnerable to competition from lower-cost US processors as tariff barriers are dismantled.

Canadian food processors have been among the most vociferous opponents of the free trade pact so long as supply-management systems keep prices high on their domestic inputs.

## US steps up Asia aircraft drive

By Paul Betts in Toulouse

THE US IS intensifying its efforts to win back market share in the Asian and Far East aerospace export market lost to European competition, European aviation officials claim.

This is likely to have a bearing on the contentious road of negotiations between the US and the European Community on the civil aircraft code of the General Agreement on Tariffs and Trade (Gatt).

EC and US trade officials are due to hold further talks in Washington at the end of this month to try to reach a compromise on the contentious issue of civil aircraft subsidies.

European Aerospace officials claim there have been signs of a thaw in the entrenched position of the two sides in the Gatt aviation row, and that the EC and the US have been moving nearer compromise on interpreting the Gatt code's most controversial aspects.

The debate has centred on US charges that the European Airbus aircraft manufacturing consortium has benefited from unfair government subsidies, while Europeans have claimed the US has indirectly subsidised US aerospace manufacturers including Boeing and McDonnell-Douglas.

The two most controversial

aspects of the Gatt code are Article 4 on civil aircraft subsidies and Article 6 on government inducements on civil aircraft exports.

Both European and US aerospace companies have recently been saying they felt the time was now right for reaching a better understanding over the Gatt code. The improved business outlook for civil aircraft manufacturers has also taken some of the sting out of the long-running trade battle between the US and the EC over civil aircraft sales.

But in recent months, a trade battle has been heating up in the Far East and Asia, which is regarded as one of the most promising markets for future aircraft sales. Airbus has made some significant inroads in these markets during the past five years.

Airbus is believed to be furious at losing out recently on a large Japanese order for wide-body aircraft after Japan Airlines opted at the last minute for McDonnell-Douglas MD-11 trijets. European officials claim Japan came under pressure from the US to choose the MD-11.

At the same time, Airbus is worried the US is trying to use the controversy in India following the crash of an Airbus

A-320 last February, to press the Indian authorities to acquire Boeing 737 aircraft instead of A-320s.

Boeing was originally poised to win a big order from Indian Airlines in 1985 for Boeing 737 aircraft, but Airbus clinched the deal even though the US company had signed a memorandum of understanding.

After the 1985 Indian Airlines deal, the Gatt civil aircraft code turned into a burning issue. Airbus is also worried by US efforts to secure the support of Japan on US civil aircraft programmes such as the Boeing 767 and the new Boeing 777 programme.

Airbus claims the US is seeking to undermine its competitive edge by buying American products to redress the US-Japan trade balance. It also claims the US is taking indirect advantage of Japanese government support for the Japanese aerospace industry through the participation of Japanese companies in US civil aircraft programmes.

Boeing, for its part, has continued to criticise European government subsidies to Airbus, and especially the West German Government's agreement to offer Daimler-Benz currency guarantees in its acquisition of the MBB aerospace group.

## US officials 'satisfied' with Korea trade accords

US TRADE officials yesterday expressed satisfaction on the implementation of trade agreements with South Korea. John Ridding reports from Seoul. But they said a final decision on whether punitive sanctions would be taken, under the US Trade Act had still to be made.

The US will deliver its decision by April 30.

Speaking after two days of talks, US officials said they were "generally very pleased" with the progress of various bilateral agreements. The talks covered a broad range of issues including agricultural market access and the opening of Korea's services markets.

The US side said they expected an agreement ending the

two countries' dispute over the liberalisation of Korea's beef market would be finalised within a week.

Areas of disagreement included the Korean cigarette market, with South Korea alleging improper sales activities by US tobacco companies.

On protection of intellectual property rights, the US said much progress had been made, but there is still a long way to go, particularly in the areas of counterfeit and enforcement.

Trade tensions between the two sides have eased considerably over the last year because of a sharp fall in South Korea's current account surplus with the US and the conclusion of several trade agreements.

## Japanese in NZ venture

NISSHO Iwai Corporation, the Japanese industrial group, Auspac, a small Australian gold exploration company, and Buller Minerals, a New Zealand mineral company, are going ahead with joint venture plans for a NZ\$130m (\$45m) titanium slag plant at Westport on the west coast of the South Island. Dal Hayward writes from Wellington.

Output from the proposed plant, which will produce 100,000 tonnes a year, will be exported to Japan. It will also produce 60,000 tonnes of pig iron a year.

Construction costs will be met by Nissho, which will hold 70 per cent of the joint venture. Auspac will have 20 per cent and Buller Minerals 10 per cent.





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## AMERICAN NEWS

## Mexico and US clash over anti-drug actions

MEXICO on Wednesday warned the US that it could withdraw bilateral cooperation in drug enforcement over the manner in which a Mexican suspect was taken to the United States, AP reports from Ixtapa, Mexico.

The Government said Mexican Attorney General Enrique Alvarez del Castillo told US Attorney General Richard Thornburgh joint efforts in the fight against drug trafficking would be endangered if it is proved that Dr Humberto Alvarez Machain was kidnapped.

Mr Machain, a suspect in the 1985 torture-slaying of US drug agent Enrique "Kiki" Camarena, appeared April 3 in the US under unclear circumstances.

Because of news reports that Mr Alvarez Machain, gynecologist, was kidnapped by either Mexican police or bounty hunters, Mexico announced on Tuesday that it was asking the US State Department "about the location and conditions in which Mexican citizen Dr Humberto Alvarez Machain was apprehended."

Mexico's Congress also opened an investigation into the case on Tuesday.

Mr Alvarez del Castillo, and

Mr Thornburgh met during a gathering of hemispheric officials to seek solutions to the drug problem.

"The Mexican attorney general told the US official that it is the exclusive province of Mexican authorities to fight narcotics trafficking in all its forms within its own territory," a statement by the attorney general's office said.

"If it is proved that the suspect was kidnapped and illegally taken to the United States by authorities of that country, it endangers the bilateral cooperation in the fight against drug trafficking, which until now have been excellent," the statement said.

Mr Thornburgh informed his counterpart that he had ordered an investigation into the case.

Some news reports have alleged that Mr Alvarez Machain was kidnapped by bounty hunters seeking a \$100,000 bounty allegedly offered by the US Drug Enforcement Agency.

Mr Alvarez Machain, one of 19 people accused by a Los Angeles grand jury in the Camarena case, was arraigned earlier this month by DEA officials in Los Angeles.

## Nova Scotia raises fear of secession in Canada

By Bernard Simon  
in Toronto

NOVA SCOTIA'S Premier, Mr John Buchanan, has raised the spectre of Canada's four eastern provinces joining the US, if tensions over the future of Quebec lead the francophone province to secede from the rest of the country.

In a comment intended to bolster support for the controversial Meech Lake constitutional accord, Mr Buchanan predicted that it would take about a decade for the Atlantic provinces - Nova Scotia, New Brunswick and Prince Edward Island - to move towards the US.

The four provinces are geographically separated from the rest of Canada by Quebec.

In the event of Quebec opting for some form of independence, "we'd be really the rump of Canada," Mr Buchanan said.

Increasingly strident warnings have surfaced in recent weeks of the political and economic impact of a collapse of the Meech Lake accord, which recognises Quebec as a unique part of Canada and gives it the constitutional right to preserve and promote its distinctiveness.

## Competition urged for US overseas calls

Hugo Dixon and Roderick Oram speak to the Federal Communications Commission

With sharply worded testimony to Congress and the launch of a study into competition in US long-distance telephone services, Mr Alfred Sikes has recently begun to assert his authority as chairman of the Federal Communications Commission.

The US is in danger of losing its position as the world leader in telecommunications, he told congressmen earlier this month, unless regulation is eased so groups such as the Bell telephone companies can provide the panoply of services demanded by users.

He also urged Congress to wrest crucial elements of telecommunications regulation back from Judge Harold Greene, who oversees the legal settlement which broke up American Telephone and Telegraph and created the Bell companies in 1984.

"National communications policy should be made by Congress, and the agency it established to implement that policy - the Federal Communications Commission. It shouldn't be devised and implemented on a day-by-day basis by the courts," he said.

Mr Sikes is well known around Washington as a deregulation advocate since his 3½ years as head of the Commerce Department's telecommunications bureau before his

appointment to the FCC. But he had taken a low profile for his first seven months at the FCC.

Taking a step towards the goal of freer markets, he launched last week a study of competition in long distance telephone services. The resulting changes should give AT&T more flexibility in how it sets prices.

As he sees it, the world has now entered the second stage of the Information Age. During the first stage, information services consisted of two types: the basic phone service, which was dominated by AT&T, and television, dominated by CBS, NBC and ABC. The FCC's role was essentially to prevent the dominant networks from abusing their position.

Now, in the second stage, there are many different information services and an increasing number of entrepreneurial companies providing them. Given this environment, Mr Sikes believes the FCC has to take a more dynamic role, otherwise there is a danger that progress will be held back.

In a recent interview, Mr Sikes defined four priority areas in which he believes the FCC should take more of a leadership role. The first priority is to "provide a regulatory environment that fosters competition."

His second priority is to use the radio spectrum



Mr Alfred Sikes

better than in the past.

One idea that appeals to him is a system of "pioneer preference", under which entrepreneurs who come up with innovative uses for the radio spectrum would get preferential treatment when it came to awarding licences.

Another idea is to auction off the radio waves to the highest bidders for all services apart from broadcasting.

Mr Sikes' third priority is to increase the FCC's international profile. "I want an FCC that thinks in international terms not domestic terms," he says.

Thus, one of his first acts as chairman was to open a special office within the FCC for inter-

national affairs. He is concerned lest US companies are prevented from being agile in international markets by restrictive regulations at home. He is also keen that foreign countries should open up their markets to US companies and that the US deficit in telecommunications services, which reached \$2bn last year, should start improving.

Mr Sikes' fourth priority area is to "eliminate rules that are obsolete", which is his cautious way of saying that he wants control over the Bell operating companies shifted from Judge Greene to the FCC.

Judge Greene's policy of preventing the Bell companies from carrying information and entertainment services over their networks, from manufacturing their own equipment and from competing in the long-distance market, has sharply divided the US telecommunications industry into the "have nots", the regulated public networks, and the "haves", the unregulated private networks.

Mr Sikes believes that the interests of entrepreneurs and the established operators have to be balanced. If the entrepreneurs fear they are going to be stifled by the Bell companies the economy loses their talents and energies; but, if the established companies are shut out of new markets, the economy

is denied their huge resources. Mr Sikes therefore advocates a system of "Open Network Architecture", which would allow rivals to get access to the Bell networks on a non-discriminatory basis.

In return, the Bell companies should be allowed to provide information services and to act as a common carrier for television programmes. Mr Sikes, though, has a tricky political task ahead of him in redefining the role of the FCC. Fortunately, his reputation as a good listener and a man with powerful political patrons will stand him in good stead. He also has industry credentials. Before his pursuing a Washington career, he was owner or partner in five radio stations in his home state of Missouri.

There has certainly been a dramatic shift over the past decade in attitudes towards telecommunications liberalisation. The UK is now firmly on the path towards deregulation. West Germany and Japan have taken important steps, and even France has shown itself willing to modify its regulatory structure.

This means that the FCC might be more effective in opening up foreign telecommunications markets if it were to harness the energies of potential allies abroad in a joint assault, instead of banging on closed doors as in the past.

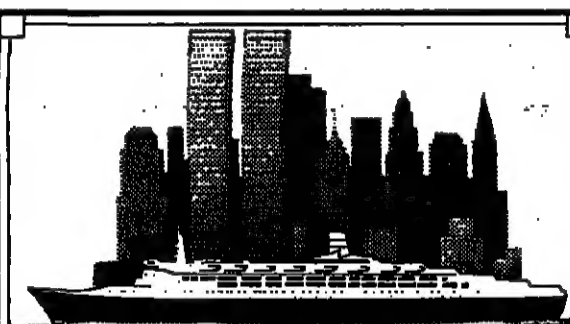
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## UK NEWS

Government confident immigration plan fulfils duty to colony

## Big revolt on plans for Hong Kong

By Philip Stephens, Political Editor

THE UK Government yesterday faced one of the biggest revolts by its own supporters since 1979 as it pushed ahead with its plans to give full British citizenship to up to 225,000 people in Hong Kong to secure stability in the colony.

During a key debate in the House of Commons, Mr Norman Tebbit, a former party chairman, warned that the nationality plan risked triggering social upheaval among racial minorities in Britain and would fail in its purpose of underpinning confidence in Hong Kong.

The opposition Labour Party also attacked the measure, claiming that it was designed to help an elitist minority. Mr Roy Hattersley, the Labour Home Affairs spokesman, said that his party would focus instead on promoting democracy in the colony.

Mr Tebbit said that it would overturn the Government's binding commitment during 11 years in office to prevent further large-scale immigration.

Amid confidence among ministers, however, that the legislation would clear its first hurdle last night despite the promised revolt, Mr David Waddington, the Home Secretary, said that the measures would both fulfil Britain's duty and serve its own national interest.

In a strong speech which gave no hint of his previous misgivings about the legislation, Mr Waddington said: "This is a case, if ever there was one, where duty and national interest march hand in hand."

Dealing with the criteria under which the 50,000 heads of household in key professions will be allowed right of abode in Britain, he insisted that the plan would anchor key groups in Hong Kong rather than encourage them to come to Britain.

The expectation last night was that the Government would lose the support of 50 or more Conservative MPs, but its confidence that it would win the key vote was bolstered by a number of factors.

Mr Paddy Ashdown, the Liberal Democrat leader, said that his party would reluctantly support the proposal, while a number of Labour MPs were



Sir David Wilson

said to be unwilling to vote with the Tory rebels.

Mr Tebbit, who said that his opposition to the bill would mark the first time he had voted against the Government, said Britain was already "overcrowded" and faced a hard enough task in integrating existing immigrants without accepting 225,000 Chinese.

● Sir David Wilson, Britain's governor of Hong Kong, said he hoped "in time" to be able to persuade China to recognise that the British passport scheme was aimed at creating a "prosperous and stable Hong Kong, not just up to 1997 but after as well," adds John Killott in Hong Kong.

He was aware of China's "suspensions" and said it was necessary to show that everything possible was being done by the UK and Hong Kong to make the territory a success.

China has repeatedly made it clear in recent months that it suspects the UK is trying to "internationalise" Hong Kong after 1997 by issuing British passports and by encouraging other countries to do the same.

Sir David also said he did not accept the Labour Party's claims that the passport scheme was "elitist." The scheme had to be selective because 50,000 families had to be chosen.

Giving passports to that 50,000 would however "affect the livelihoods of everyone in Hong Kong" because it would help to keep the colony running.

## BRITAIN IN BRIEF



## Thatcher blames gun contractors

Mrs Margaret Thatcher yesterday appeared to lay the blame for a two-year delay in identifying an export order for steel tubing as part of an Iraqi project to build a long-range gun squarely on the shoulders of the two British companies.

As the political furor surrounding the "super-gun" intensified, the Prime Minister said that it had been the responsibility of the two companies - Sheffield Forgemasters and Walter Somers - to apply for export licences for the equipment.

Her explanation was fiercely attacked by Mr Neil Kinnock, the Labour leader who insisted that the Government had to bear responsibility for failing to heed repeated warnings about the nature of the deal.

● Space Research Corporation, the Belgium-based company accused by British officials of masterminding the manufacture of a large gun for Iraq, announced yesterday that it was ceasing operations. The move follows the murder last month of Mr Gerald Bull, the Canadian artillery expert who founded SRC.

## MoD lacks information

The Ministry of Defence continues to buy equipment without adequate information on the cost of keeping it in service, according to a report yesterday by the Commons Defence Committee.

Unreliable equipment is reckoned to cause unplanned costs of more than £1bn a year. The MoD has indicated that about half this could be saved over a period of between 10 to 20 years, but that tighter

contracting practices would themselves cost money. The committee warned that much of the information on which procurement decisions were based would remain inadequate until better means were developed for estimating life cycle costs.

Unexpected support costs caused by unreliable equipment are reckoned at £550m a year for the Royal Air Force and £250m each for the Royal Navy and the Army.

## Charge costly to implement

The Community Charge will cost twice as much to administer as the rates, according to a survey published yesterday by the Institute of Fiscal Studies.

The report also predicts that the high administration costs will continue, and that the poll tax will be shown to be inherently expensive to implement.

Researchers based their study on detailed questionnaire results received from 198 local authorities in England and Wales.

## Wafting to work

Dank smells emanating from tunnels and unpleasant ponges from travellers crushed together in the rush hour are being masked by more pleasant fragrances on the 148-year-old East London underground line.

Commuters are waiting to work in fragrance-filled carriages, as part of an experiment by London Underground.

Tube managers say the seven scents - described as "lemon, sea fresh, mandarin, hyacinth, rose, cool water and wood" - are intended to reduce stress and bring on feelings of well-being among commuters who make six million journeys a year on the line.

## Prison riot wears on

The last seven rioters at Strangeways prison in Manchester are holding out behind barricades and booby traps, fire bombs and sharpened scaffold poles, a prison officers' spokesman said yesterday.

As Britain's longest prison protest entered its 19th day, Greater Manchester police authority estimated the containment cost in overtime for more than 2,000 officers at "around £1m".

## Welsh assembly not priority

The Labour party's promise of an elected Welsh assembly as part of its reorganisation of local government in England and Wales will not be a top legislative priority if the party wins the next General Election.

Although Labour has committed itself to the creation of devolved government for Scotland in its first session, Mr Barry Jones, Shadow Secretary for Wales, conceded in Cardiff yesterday that health, housing and the poll tax would be more pressing.

Labour would however, transfer the Welsh Office's £40m budget to an elected assembly, although it would not have powers to raise revenue or make laws.

## Sell-off criticised

A former Royal Observatory site could have raised millions of pounds more than its eventual sale price, an independent Government spending watchdog said yesterday.

A National Audit Office report said officials did not do enough to ensure they received the best price for the 370-acre site at Herstmonceux Castle, East Sussex.

The report said the observatory site's owner, the Science and Engineering Research Council, accepted a bid of £8.1m before it fully investigated another bid of £14m.

## Minister for London

London needs its own minister to tackle the city's deficiencies and safeguard its world status, Lady Porter, leader of Westminster City Council, said yesterday.

Her remarks followed the launch of a personal report in which she urges the Government to create the new post citing litter, crime and transport as primary reasons for a London minister.

## Ruling due for Manx case

The preliminary hearing in the Manx High Court of the Savings and Investment Bank trial was adjourned yesterday until and the court will reconvene on Wednesday when Mr Thomas Field-Fisher, QC, the deputy judge, will rule on whether the trial should proceed.

Defence lawyers have argued that delays in bringing prosecutions have been so great that the trial should not be dropped. Mr Field-Fisher has ruled that Mr Victor Gray, one of the defendants, should not have to face trial at present because of ill health. Mr Gray and seven former directors, officials and agents of the SIB face seven charges arising from the bank's collapse in 1982.

## Prince issues warning



The Prince of Wales yesterday warned business leaders it was "positively reckless" to walk away from the needs of the inner cities.

In a foreword to a report on the economic regeneration of inner cities, he said local communities need to be nurtured and equipped with the best education and training possible.

The interests of shareholders are best served by creating a culture which is supportive of business, the Prince wrote.

The report, *Leadership in the Community - A Blueprint for Business Involvement in the 1990s*, prepared by the influential Business in the Cities group, concluded that regenerating such areas is an "absolute necessity" for the economic survival and prosperity of Britain.

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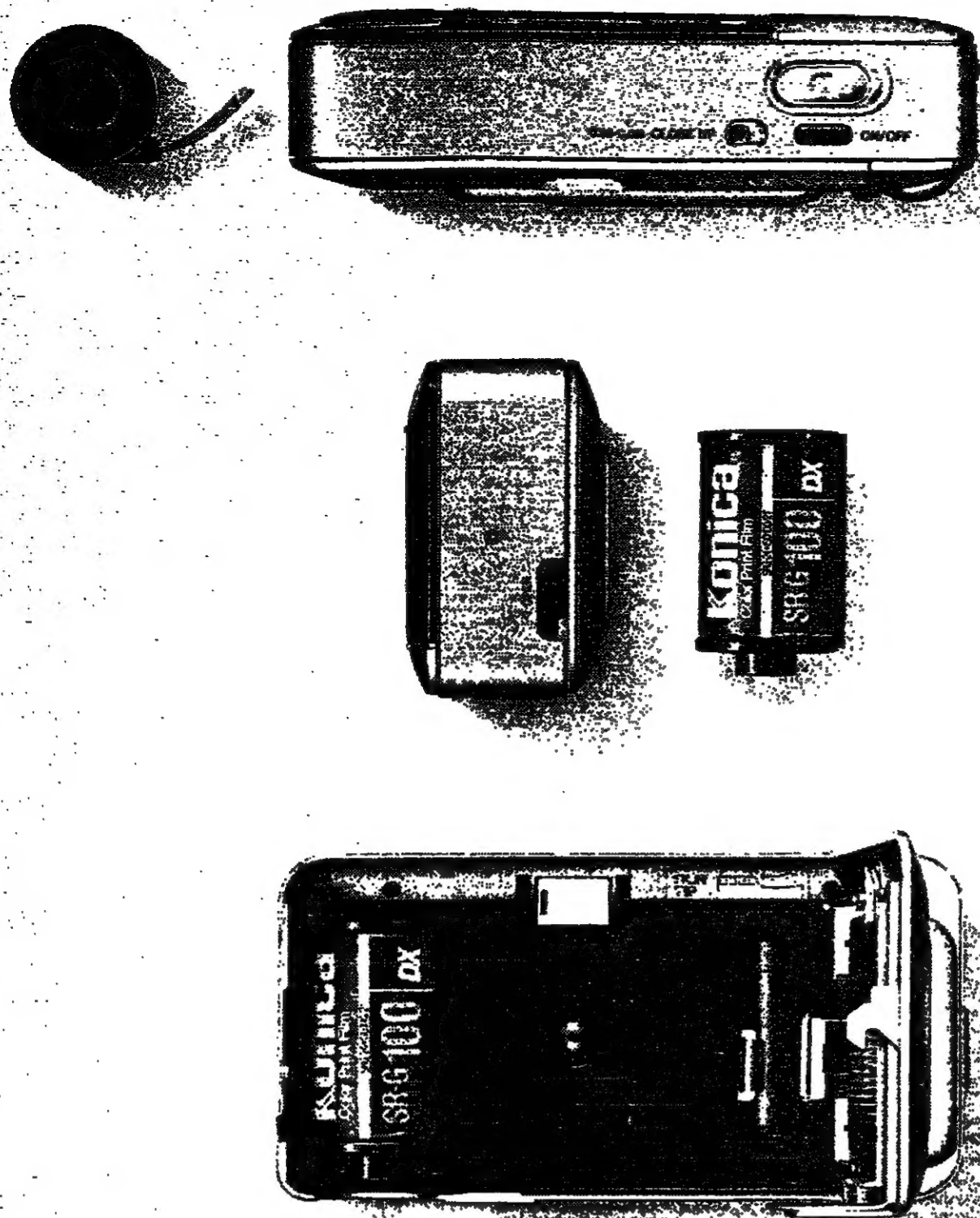
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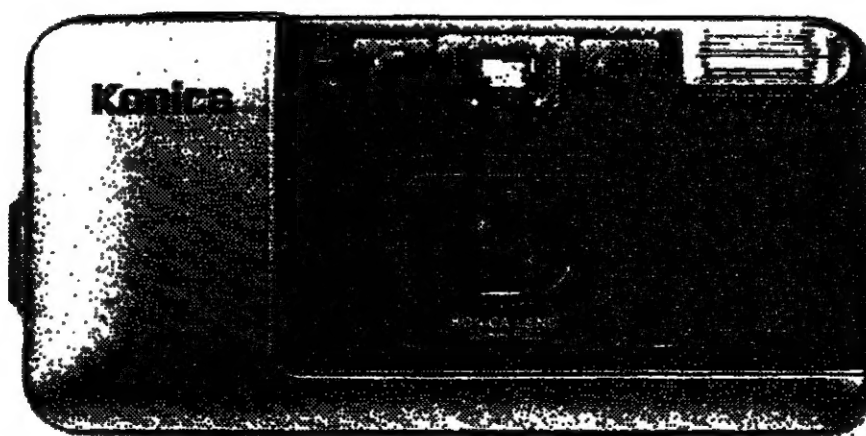


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## UK NEWS

## Estate agents face legal curbs on sales abuse

By David Churchill, Leisure Industries Correspondent

TOUGHER controls on rogue estate agents are to be brought in by the Government before the end of the year in an attempt to curb widespread consumer concern about unethical and dishonest estate agents.

The controls were announced yesterday by Mr Eric Forth, Consumer Affairs Minister, and follow a report and recommendations last month from the Office of Fair Trading.

Mr Forth said that he was accepting the OFT's recommendations in full to establish a selective package of statutory controls within existing legislation.

Mr Forth added that he was disappointed that estate agents had not been able to agree a voluntary code of practice rather than facing legal curbs. Relevant sections of the 1979 Estate Agents Act are to be strengthened to cover offences which, if flouted, could lead to an estate agent being banned from operating.

New offences would include wrongly describing a property's details, putting pressure on buyers to buy insurance, failing to disclose personal interest in properties, and falsely claiming higher bids on a property.

## Former Hilton chief buys hotels

## Allied-Lyons to sell Embassy chain for £202m

By Philip Rawstorne

ALLIED-LYONS, the food and drinks group, yesterday agreed to sell its Embassy Hotels chain for £202m to Jarvis Hotels, a private company set up last month by Mr John Jarvis, former chairman and chief executive of Ladbroke's Hilton International operations.

The sale is conditional upon the successful financing of the acquisition by Jarvis Hotels, which will pay £150m in cash and the remaining £40m through a guaranteed loan note, bearing interest at 6 per cent a year, and repayable in 1994.

Mr Jarvis said yesterday that he was talking to a number of interested institutional investors.

Embassy operates 41 hotels, with some 3,150 bedrooms, in London and many provincial cities. In the year ended March, 1989, it made trading profits of £2.4m on a turnover of £57.6m. Its net assets then were estimated at £78.8m.

Allied put the hotels up for sale last December, deciding after an extensive review of

corporate strategy that they could not be included in the core development businesses.

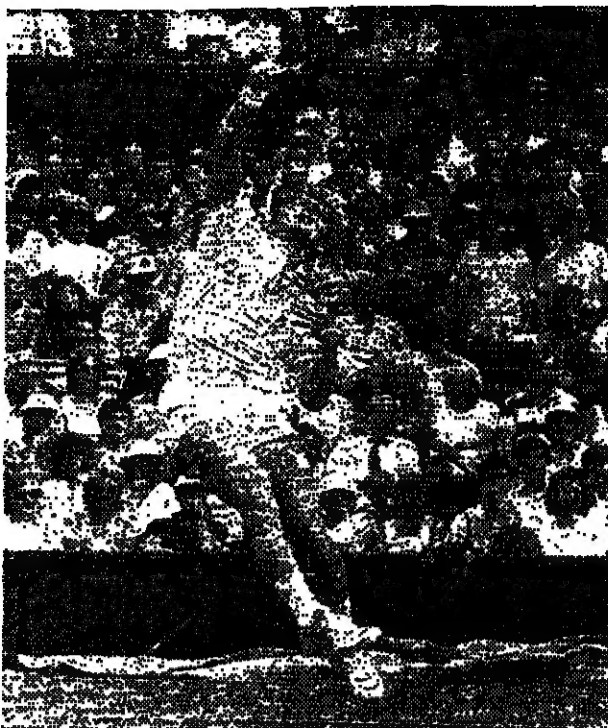
The proceeds of the sale will be used to reduce Allied's debt - estimated at around £2bn after the acquisition of the Whitbread spirits business for £545m four months ago.

Mr Richard Martin, Allied's chief executive, said the deal would cut the group's gearing from 82 per cent to 72 per cent. "After some hard bargaining, we believe we have arrived at a mutually beneficial deal," he added.

The price, equivalent to £80,000 a room, is at the lower end of analysts' forecasts but reflects the large number of hotel groups recently on the market. Bass put its Crest chain of 47 hotels up for sale last month.

Mr Jarvis, who left Ladbroke in February to form his own hotel business, and has since been joined by another former Ladbroke executive, Mr David Thomas, said: "I think we have paid a realistic price in the present market conditions."

## Ticket touts win tacit approval from Government



The haves and have-nots: demand for seats at Wimbledon makes business profitable for the ticket touts, who find ready customers in the queue outside.

By David Churchill, Leisure Industries Correspondent

TOUTS who sell tickets at sky-high prices for the Wimbledon Lawn Tennis Championships, and other major sporting and cultural events were yesterday given the Government's seal of approval.

Lord Strathclyde, Tourism Minister, said: "There are dangers inherent in restricting what many would see as

legitimate commercial activity and in perhaps unduly limiting the scope of genuine ticket agencies to operate."

The decision will dismay tourist organisations and organisers of major sporting events who had hoped the Government would take some action against touts who sell tickets for many times their face value.

Lord Strathclyde, however, said that it was up to organisers of events to ensure that their tickets did not lead onto a black market.

He cited the Wimbledon tennis authorities as an example of a sporting body which had been trying to directly tackle the problem.

However, he made clear that ticket

touts for football matches were likely to be dealt with differently as a result of the Taylor report.

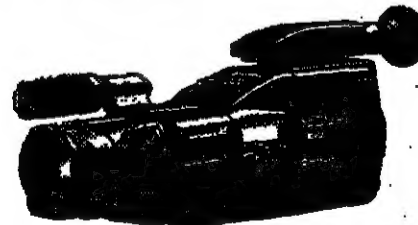
Lord Strathclyde said that Mr David Waddington the Home Secretary was at present considering Lord Justice Taylor's recommendations to limit ticket touting at football matches and at the Wimbledon tournament.

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## Emergency services may look to Continent, US

## Fire chiefs propose integration with ambulance service

By Alan Pike, Social Affairs Correspondent

INTEGRATION OF the emergency ambulance service with the fire brigade to form a single organisation was proposed by Britain's chief fire officers yesterday.

The proposal would structure the British emergency services on a pattern which is common elsewhere in Europe and in the US.

It forms part of a growing debate about the future of the ambulance service after the recent long industrial dispute and in the face of impending National Health Service changes.

Health authorities found that many patients made their own way to hospital during the dispute, and some are now reviewing the extent to which they need to use ambulances for non-urgent cases. Ambulance services in parts of the country already use private taxis and coaches for much of their non-emergency work, and this trend is likely to increase as next year's NHS reforms force authorities to seek the most economic means of transport.

The Chief and Assistant Chief Fire Officers' Association said yesterday that if it made good economic sense for health service managers to separate regular operations from the emergency service "the logical position for emergency ambulance work would be with the fire service."

Mr Brian Fuller, chief officer of the West Midlands Fire Service, said that if a considerable amount of ambulance work were lost to the private sector it would make it more difficult for the surviving emergency ambulance service to have its own control rooms, workshops and other facilities.

Integration into a single organisation could increase efficiency and offer the public a better service. And if the EC eventually adopted a standard structure for emergency services, it was likely to be based on the continental model where fire and ambulance services were already integrated.

The chief fire officers' proposal forms part of a report on the future development of fire and rescue services published yesterday. Its call for the integration of the emergency ambulance service was agreed unanimously by chief fire officers attending a seminar on the report last month. Many ambulance staff, however, are likely to regard the proposal as an attempted take-over rather than an amalgamation.

The report supports the continuation of the fire brigades as a local authority service, but questions whether the traditional local government committee structure is the best way of managing it. Although some local authority chief executives might disagree, says the report, the lead role in planning for major civil emergencies should be taken by the fire service or police.

Support for the retention of the fire brigades pay formula, which provides an automatic link between firefighters' pay and that of other occupations, is given by the chief officers. But the report says this should now be linked to a no-strike agreement.

The report expresses concern about Government proposals to stop directly funding the Fire Service Colleges, and make this the responsibility of local authorities. Chief officers are concerned that this could undermine training standards.

## ABB Kent set to form large part of new division

By Andrew Taylor, Construction Correspondent

ABB Kent, the British instruments group, is to form a large part of a new division to be created by Asea Brown Boveri the Swiss-Swedish engineering group.

The new division will manufacture sophisticated control and measuring equipment for a wide range of process industries.

Asea Brown Boveri in February bid 178p a share for the remaining 45.5 per cent of ABB Kent it did not own.

The bid valued Kent, which is the world's second largest manufacturer of water meters at £135m.

Kent said yesterday that Asea Brown Boveri had purchased more than 95 per cent of its shares and was in the process of buying out the remaining shareholders.

The new division will be called ABB Kent-Taylor and will incorporate a large part of the Kent business supplying instrumentation equipment to process industries as well as the Taylor Instrument division of ABB Combustion Engineering in Rochester, New York.

The division will have annual sales of more than \$250m.

The division will exclude Kent's water meter business.

## Councils seek joint poll-tax legal challenge

By Paul Cuts

All 21 local authorities which have been penalised by the Government for setting what it sees as an unacceptably high rate of the controversial new poll-tax yesterday agreed to support a legal challenge against the Government's action.

Leaders of the opposition Labour-controlled councils met in London. They agreed to back Hammersmith and Fulham council's legal challenge, which is seeking leave to appeal for a High Court judicial review next Tuesday.

The councils will share legal costs by bringing an "umbrella action." Until the case is settled, all 21 will collect the poll-tax, or community charge, at the levels they set before being "capped".

A joint statement issued by the authorities revealed all the councils were considering their own legal positions "very carefully."

Margaret Hodge, Chair of the Association of London Authorities which represents nine of the 21 councils, told a press conference the selection of capped authorities had been "arbitrary and politically motivated." Roger Berry, leader of Avon County Council, said "The position of all of the authorities is that we do not accept the caps."



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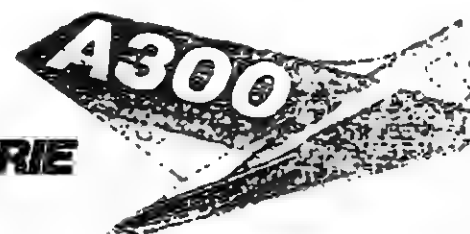


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## THE PROPERTY MARKET

## Speculation pushes Japan's boom

By Stephen Fidler

The price of land in Japan's big cities makes property prices in central London look like a bargain. Proceeds from the sale of an area the size of the Imperial Palace grounds in central Tokyo would, it is said, buy all of Canada and the buildings on it.

A square metre in Tokyo's glittering Ginza shopping district was selling last year at \$245,000, according to the national land survey, which tends to underestimate actual purchase prices.

Residential land prices in the Chiyoda ward of Tokyo - the home of Mr Toshiki Kaku, the Prime Minister, and the most expensive in Japan - were logged at \$80,000 a square metre. Land for housing in Tokyo is 150 times more expensive than in New York City.

While Japanese land prices have long been relatively high, over the last five years they have been in a speculative spiral: a consequence of the international economic co-ordination effort which kept Japanese interest rates low to prevent a col-

lapse in the dollar.

The initial impact was in Tokyo, where demand for land was influenced by the influx of foreign financial services into the City. The effect has since fanned out, leaving few of the country's big cities unaffected. Last year residential land prices in Osaka rose by more than half - to more than 90 per cent of Tokyo's - while Kyoto, the ancient capital, experienced a 62 per cent rise. But as Japan's economic power has grown in the world, its high land prices have become more than a domestic concern.

By inflating the share prices of companies which own land, it is said that high property prices allow Japanese companies to raise the world's cheapest equity capital.

According to Kenneth French and James Poterba of the Massachusetts Institute of Technology, land prices make up more than half the tangible assets of Japanese companies compared with about 12 per cent of their US counterparts. Low money has helped the latest upward spiral

in prices, but they were high in the first place.

The reasons are structural. Some, indeed, make it advantageous to hold land over other assets. Some discourage the efficient use of land.

Work by Mr Yukio Noguchi, Professor of Economics at the Hitotsubashi University, shows that the huge disparity in property prices between Japan and other developed countries is not reflected in office rents. In 1987, office rentals in the Marunouchi district of Tokyo were only double those in the City of London or in Manhattan.

Encouraged by 40 successive years of land price rises - with the exception of 1975, after the first oil price shock - most buyers of land appear not to purchase with rental income in mind, but for capital gain. Many companies and individuals thus use land holdings as collateral against which they borrow to buy... more land.

The emphasis on land use seen in other countries is not so highly developed in Japan because it is less important than ownership. On top of this, the tax system and the building and leasing laws, which give unusually strong rights to tenants, work against efficient use of the land.

Lease laws make it virtually impossible to oust a sitting tenant by legal means - a strong disincentive to letting residential buildings. A building with sitting tenants will invariably reduce the value of the land on which it sits. That partly

explains why so many underused sites lie so close to the centre of Tokyo.

But anomalies in the tax system provide another reason why so many tiny fields are cultivated so close to the centre of cities in Japan. There are 200,000 hectares of farm land within 50kms of central Tokyo, 36,000 hectares in the Tokyo urban area alone.

One legacy of the economic priorities in post-war years is the protection granted to farmers. Farmland, even in urban areas, attracts hardly any property tax.

According to research from the Economic Research Institute of Japan's official Economic Planning Agency, tax on housing land is almost 400 times as heavy as on land used for farming. Under certain assumptions, the institute calculates that equalising tax on farmland and housing land in urban areas would render farming uneconomic, increase the supply of housing land and thereby reduce the price of land by up to 25 per cent over 10 years.

Another critical factor in propelling up land prices has been the need for reform. In practice, however, there has been almost a conspiracy of inertia.

There is also strong and understandable support for the lease law, which are seen as playing an important social role. Still reform of these laws would free more land for housing and the main beneficiaries would be the poor and the lower



Property price spiral: high-rise office and retail buildings in central Tokyo

Efficient land use is further constrained by restrictive planning laws which limit the height of buildings to 10 metres in most areas. Now that construction technology seems to be able to cope with even severe earthquakes, such a restriction has less real value.

Confronted with these issues, many Japanese agree in theory with the need for reform. In practice, however, there has been almost a conspiracy of inertia.

There is also strong and understandable support for the lease law, which are seen as playing an important social role. Still reform of these laws would free more land for housing and the main beneficiaries would be the poor and the lower

middle classes.

Sixty per cent of Japan's population owns a piece of land. In Tokyo and including those expecting to inherit, this figure reaches close to 80 per cent. Gaining consensus on reform is thus difficult, even though huge numbers of those who consider themselves winners from high land prices may really be losers; for example, those who face two-hour journeys to work because they cannot afford to live nearby.

Judging from the collapse in stock prices since the beginning of the year, the Bank of Japan's tighter money policy is beginning to have an effect on asset prices - as reflected in the fall of about 25 per cent in Japanese share prices.

Its moves to raise interest rates seem to be taking some of the steam out of the country's inflated asset markets.

Japan has promised the US that this year it will submit a bill to the Diet to review the tax charge on farm land in metropolitan areas and to implement tax reform starting in 1992. It will also review taxes on unused land with a view to giving owners an incentive to use it. But the worry for those seeking more fundamental reform is that it is sharply rising land prices which disturb the Japanese, not the fact that prices are too high. If the Bank of Japan policy succeeds, that unease may dissipate along with the political will for land reform.

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	Retail	Office	Indust	Allprop
Year to Feb '90	0.8	11.0	16.5	7.3
Quarter to 2/90	-2.6	-1.0	-0.1	-1.5
Month, Feb 90	-0.9	-1.2	-0.3	-0.9

Source: Investment Property Database

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## TECHNOLOGY

John Griffiths on Lotus's progress into electronic vehicle innovation

## Designs for easy riders

The time: the late 1990s; the place: a lonely, heat-baked desert road in Arizona. Without warning, the sports car which is its driver's pride and joy coughs, stutters, then glides to an halt at the roadside.

In time-honoured manner the driver gets out, opens the bonnet and hopes to find something obviously wrong. In the simple days of carburettors and contact-breakers, it might well have been easy. Now there are no clues: the engine is barely discernible beneath a festoon of systems wiring and inscrutable electronic black boxes.

But even as the first vulture is cheerfully applying its air brakes, the driver is punching at a bank of cockpit buttons. A continent away, at Hethel in Norfolk, a receiver begins to pick up the data being bounced back by satellite from the stranded car in Arizona.

A computer inside Group Lotus - Hethel is the home of General Motors sports car and engineering subsidiary - compares the incoming data with the main database for the model and identifies the minor problem that has developed in its electronic engine management system.

Within seconds encoded instructions are being sent via

the satellite into the car's receiver, reprogramming circuitry to isolate and bypass the problem. A dashboard message signifies that the car is operative again. The driver fires up and heads off into the sunset, leaving only the sound of gnashing beaks.

Michael Kimberley, chief executive of Group Lotus, has been steering the company's activities since well before its consultancy engineering activities began a decade ago. In describing the above scenario, he and his senior electronics and engineering colleagues at Group Lotus are trying to establish a belief that the concepts contained in it are likely to become a reality for an increasing number of the developed world's motorists.

For commercial reasons, such as getting component costs down to reasonable levels, such a situation might not be feasible by the late 1990s, they acknowledge. But the system is already technically achievable and, says Lotus,

there is no reason why remote electronic fault diagnosis and correction should not become an accepted part of motoring early in the 21st century.

The concept of a remote "intelligent" diagnosis and service centre is just one aspect of electronic vehicle innovation on which Lotus has been working for some time. However, says Kimberley, this is being facilitated at an unexpectedly rapid rate as a result of the company's emphasis on data acquisition and analysis.

He uses Team Lotus's racing activities as an illustration of how unexpectedly informative, and important, sophisticated data collection has proved in developing systems such as electronically-controlled "active" suspension and steering, on which Lotus is working for various motor industry clients.

Described in simple terms, active suspension is a system in which sensors monitor all the forces acting on a car, including surface unevenness,

and convey their information instantaneously to a computer. The computer commands two-way hydraulic rams, capable of working in hundredths of a second, to counter any unwanted changes in the car's attitude under braking, cornering, or over rough roads.

But it embodies potential hazards, too, as was shown up in the data stored from one grand prix where a prototype active suspension car was used. The car crashed with a sudden puncture, or so it seemed until the data which on-board sensors had been transmitting into the car's "black box" were analysed.

By reading the force measurements, Lotus technicians learned that the puncture had begun to develop a full two laps earlier. The driver had been unaware of it until the last moment because, so effective was the active suspension that it had successfully compensated for the deflation right up to the point that the tyre disintegrated.

With active suspension touted to become a standard feature of most cars by early next century, eliminating such potential hazards assumes profound importance. Electronic tyre pressure monitoring is one solution - but, as Lotus's engineers point out, so radical are the advantages offered by active suspension that even a fundamental redesign of the pneumatic tyre since it was invented cannot be ruled out.

"You can even ask yourself, given the way in which an active suspension will pick itself up over a bump, whether you even need air in the tyres at all," observes Kimberley.

Meanwhile, Lotus has given its first detailed indications of how it is tackling "active" steering. Lotus intends the active part of the steering to be carried out by the rear wheels - the electronic system turning the rear wheels either in parallel with, or in the opposite direction to, the driver-steered front wheels, depending on the nature of the forces at play.



Michael Kimberley of Lotus

One example of how it will work, says Kimberley, is provided by a car so equipped passing a truck at high speed on a motorway. Instead of having to prepare the driver to counter a sudden sideways gust, the active steering will sense the sudden sideforce and instantly balance the car against it. "The driver shouldn't even be aware that anything's happened," says Kimberley.

## Chip industry calls for new trade rules

By Louise Kehoe and Michael Skapinker

Semiconductor manufacturers from the US and Europe are calling for radical changes to anti-dumping laws to prevent any recurrence of the trade battle with Japan over memory chips, which began in the early 1980s.

Two trade groups, the US-based Semiconductor Industry Association (SIA) and the European Electronic Components Manufacturers Association (EECA), have called for modification to the anti-dumping code during the current round of Gatt negotiations.

Existing trade rules are inadequate, the industry groups claim, because they punish dumping only after a domestic industry has suffered serious, sometimes irreparable damage.

"Dumping companies can achieve long-term market advantages, elbow out their competition - sometimes permanently - while government action is too lenient to deter repeating the unfair practices," the industry groups charge.

The problem is particularly acute in the semiconductor industry. By the time bureaucratic wheels have turned and a dumping case is completed, the products in question may already be obsolete. "Our experience and the experience of other high-technology industries show that anti-dumping laws were devised to deal with products with far longer life cycles," says Eckhardt Runge, EECA's secretary general.

Wilfred Corrigan, chairman of the SIA, adds that "during the last round of D-Ram dumping remedies came too late to save American firms which were driven from this market." All but two US D-Ram manufacturers withdrew from the market in the mid-1980s.

Similarly, the European Commission reached an anti-dumping agreement with 11 Japanese manufacturers last January, two and a half years after it first launched its investigation and at least four years after the dumping began.

Fears that dumping may recur make it difficult for semiconductor manufacturers to commit themselves to long-term, costly investments in research and development as well as in new plants, the industry groups say.

The US has a five-year semiconductor trade agreement

with Japan which is due to expire in September 1991. The EC-Japan accord will be reviewed in the same month.

Chip makers are anxious to have new dumping laws in place before these agreements end. "We are holding on to a safety rope," says Warren Davis, SIA vice president. "We cannot afford to let go unless something else is in place."

The perceived threat of dumping comes not only from Japan. A focus of the semiconductor industry groups' attention is Korea which has greatly expanded its exports of chips over the past five years.

The US and EC semiconductor groups have agreed on three basic principles aimed at improving the effectiveness of international anti-dumping codes:

- Prevent injurious dumping.
- Prevent evasion through third market sales.
- Include all costs in fair value calculations.

The groups have, for example, agreed upon a common definition of what constitutes a "fair price" for a semiconductor chip. This has involved assessing how various costs should be assigned and agreeing upon what a fair profit margin should be.

EECA's Runge says that western semiconductor companies' own dumping investigations could enable the authorities to act much more quickly.

"If at the stage of preliminary investigations, it's clear that dumping has occurred, then action should take place immediately. It should not take years to establish the facts."

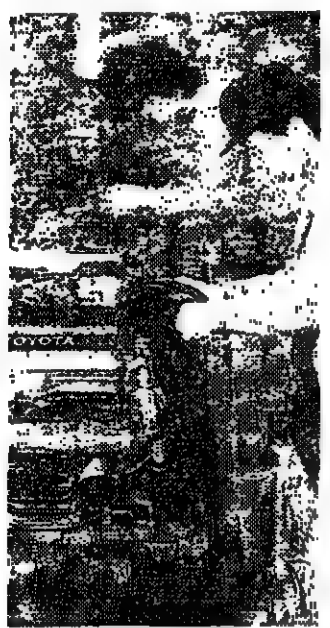
SIA and EECA, which have been meeting for over a year to discuss the dumping issue, have yet to address what may be the most controversial and problematic aspect of their proposals.

Proceedings of dumping and swift response possible, some form of price monitoring system needs to be established.

In the case of D-Rams, Japanese export price data is being collected under the terms of the US-Japan semiconductor agreement. That mechanism, or a similar one, would have to be expanded and made permanent in order to implement the proposed changes in anti-dumping laws.

## 'Relentless pursuit of perfection'

Stefan Wagstyl examines quality control on Toyota's luxury model



Inspectors in white gloves spearhead the efforts of Toyota Motor, the Japanese car maker, to challenge Daimler-Benz and BMW in the luxury car market, the last frontier for the Japanese auto industry.

A team of quality control experts examines every car coming off Toyota's luxury model assembly line at Tahara, in central Japan, where the company produces its first luxury model - launched last year in the US as the Lexus LS400 and as the Celsior in Japan.

Working under bright lights like surgeons, they listen for the slightest unexpected sound from the V8 engine and look for the smallest scratch on the paintwork. They use computers to check the alignment of the wheels and the accuracy of the steering. At the end of the line is a large board where workers have written slogans like "It is determined not to fit any wrong parts."

To Toyota's embarrassment, two small faults last year escaped detection - cars in the US had to be recalled after dealers reported problems with a brake light and with the cruise-control. But overall, the Lexus/Celsior has reached

new heights of quality control for Toyota Motor.

Signs comparing the Lexus/Celsior with the latest BMW and Mercedes-Benz models hang above the inspection lines to inspire workers and impress visitors. The Lexus/Celsior costs some 50 per cent more to produce than Toyota's previous top-of-the-range car, the Crown, according to company estimates.

Setsuro Sekiya, the plant manager at Tahara, says the bulk of this is absorbed in many unseen improvements spread across the whole factory. The meticulous final inspection - which takes four times longer for a Lexus/Celsior than for a Crown - is only the most visible change.

The others are dotted about the manufacturing process. Unlike Toyota's other plants, where the main aim of production improvements is to cut costs, the goal at Tahara has been to raise quality - trying to make the car safer, sleeker

and faster than rival models. As a result Tahara is by no means the most highly automated of Toyota's plants. Instead, its outstanding feature is the selective use of new methods and technologies.

In the engine plant, the challenge was to produce a V8 engine superior to the V6, installed in other top-line models, which had itself only gone into production in 1987.

Engineers found they could boost output simply by making the engine components more accurately, cutting the maximum variation in the size of the engine chamber from 0.8 cubic centimetres to 0.6 cubic centimetres, for example.

Engine blocks are made on an automated line, with the aluminium casting moving from one robot to another for tooling. In the past, inspectors took one block off the line for shift to check that the robots were operating properly. Now, a computerised robot has been

installed which automatically checks one block in 30, giving an instant read-out of the dimensions in the form of a chart for ease of inspection.

By improving the finish on polished engine parts, engineers can reduce friction and thereby improve efficiency.

Toyota developed a special cork-like substance to give components a final rub after they have been smoothed by conventional polishing materials.

The inspection of engines has been improved by building a sound-proof testing room where engines can be run at full revs without the noise disturbing nearby workers.

Over the gates of the body shop hangs a banner saying: "The relentless pursuit of perfection." The bodyshop is the most highly automated part of the Lexus/Celsior production process with 94 robots, 74 of them welding. The newest innovation is a laser welding machine which seals joints by

melting together two or more pieces of metal.

Toyota, using its own in-house machine tool workshops, has built a laser-welding machine able to weld steel of different thicknesses. It produces a side panel in one operation - welding together a thick piece of steel at the bottom, galvanised for protection against rust, thinner pieces in the middle, and a thicker piece at the top for reinforcing the body in case of accidents.

One of the most difficult operations is fitting doors. It used to be done by hand, now a robot aligned by means of lasers fits doors to within 1 millimetre in accuracy.

On the assembly line, where the Lexus/Celsior is assembled together with the Scorer and Supra models, each car is tagged with an electronic card hung on the chassis. This alerts robots to its individual specifications so they can, for example, select and install seats of the right shape and colour. At one point on the assembly line the Lexus/Celsior bodies are automatically routed on to a separate line, where front grille parts, more complex than for the Supra and Scorer, can be installed.

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## FT LAW REPORTS

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FROM JANUARY 31 TO FEBRUARY 16

**GLYNN v INLAND REVENUE COMMISSIONER** (FT, January 31)

The taxpayer agreed to work as an executive director for a company in Hong Kong on terms that the company would pay his children's education costs. It was held that the fees constituted income from his employment assessable to Hong Kong salaries tax. Upholding that decision, the Privy Council stated that it sufficed to say that an identifiable sum of money required to be expended by an employer, pursuant to a contract of service for the benefit of its employees, was paid at the request of the employee and was either part of his salary or was a monetary perquisite taxable as such according to UK law and authorities. It was money paid at the employee's request, and salaries and perquisites must be taken to have the same meaning in Hong Kong tax law, which was based on UK law.

**RE ORGANON LABORATORIES LTD** (FT, February 2)

The licensing authority appealed against a Divisional Court judgment, quashing its decision to vary the licence, on the ground that evidence regarding an anti-depressant drug was admissible to show that the drug had low toxicity when taken in excessive quantities. The licensing authority's decision to exclude had been based on EC Directive 65/68 that safety in overdose was not a relevant factor in assessing the safety or harmfulness of a drug. The Court of Appeal, upholding the Divisional Court's judgment, stated that although the UK was in breach of its treaty obligation to harmonise the law on medicinal product licences on the lines of the Directive, section 28 of the Medicines Act 1968 was the applicable test of "safety" in administration of the drug and safety did not involve an immutable standard. Very few drugs were entirely free from risk of side effects in some patients. The question must always be whether the degree of risk was sufficiently low to be acceptable, and that could not be addressed without an appreciation of the benefits to be gained from taking a risk of that degree.

**SOCIETAD NACIONAL DE COMESTIBLES DE ARGENTINA AND OTHERS v LUNDQVIST AND ANOTHER** (FT, February 6)

Under a Mareva injunction, the defendants, Mr Lundqvist and SLOES, were required to give details of the "value and whereabouts" of "his" assets wherever situated. Section 14(1) of the Civil Evidence Act 1968 provided that a person's right in non-criminal proceedings to refuse to answer any question or produce any document if to do so would tend to expose him to proceedings for an offence, (a) shall apply only as regards criminal offences under the law of any part of the UK... It was plain that the fact of the witness being in danger had been established in Mr Lundqvist's case. The question was whether the value and whereabouts of his overseas assets would form a link in the chain of proof against him on a criminal charge. He was to be allowed great latitude in judging that for himself. And it appeared distinctly probable that the value of his assets might be such a link - not that it would be. The claim for privilege was upheld insofar as Mr Lundqvist and SLOES were required to state the value of his assets overseas. The same reasoning did not apply to the nature or situation of those assets.

**THE MEXICO I** (FT, February 7)

Under a charterparty commenced of laytime was expressly related to notice of readiness. However when the master gave notice that the vessel was ready to commence discharging, the cargo was partly overboarded and another cargo and it only became accessible after three weeks. Allowing an appeal by the charterers, the Court of Appeal held that there was no basis for finding that laytime began before the operation of discharge began. The second question was whether it was permissible to regard two-part cargoes carried on the same vessel for the same port for the same charterers, as constituting a single cargo, so that notice of readiness could properly be given as soon as the whole of one part was available. They were two different contracts and there was no duty.

**ING in the one to annul the provisions of the other and to substitute a single contract.**

**METTOY PENSION TRUSTEES LTD v EVANS AND OTHERS** (FT, February 9)

Under Mettoy's pension scheme, the trustees held the pension fund on irrevocable trusts to pay pensions and other benefits in accordance with terms of the fund. On winding up 2,500 were entitled to benefit. Surplus over mandatory benefits was estimated at about 29m. Mettoy submitted that, under the deed, members' rights were satisfied when they had received their mandatory benefits. Whether they received more lay in the bounty of the employer. That was not correct, Mr Justice Warner stated and the beneficiaries had a right to be considered for discretionary benefits. The discretion conferred on the employer by rule 13(5) was a fiduciary power in the full sense.

**CAPARO INDUSTRIES PLC v DICKMAN AND OTHERS** (FT, February 13)

In the present action Caparo alleged that a takeover bid was made in reliance on inaccurate or misleading accounts by which an apparent pre-tax profit of £1.3m should have been shown as £0.5m of over 240,000. It said that the true facts been known it would not have bid and it alleged fraud and negligence against the accountants. On a trial as a preliminary issue, it was held that the auditors owed no common law duty of care to the shareholders or to the investors. In the Court of Appeal, it was held that while there was no sufficiently proximate relationship between an auditor and a potential investor to give rise to a duty of care, there was such a relationship with individual shareholders. The accountants cross-appealed to the House of Lords which held that it was difficult to visualise a situation in which individual shareholders could claim to have sustained a loss in respect of existing shareholdings referable to auditors' negligence. A purchaser of additional shares stood in the same position as other investing members of the public to whom the auditors owed no duty.

**GUINNESS PLC v SAUNDERS AND ANOTHER** (FT, February 14)

Mr Ward, admitted receiving £5.2m of Guinness money when he was a director of Guinness. Payment was, said Mr Ward, remuneration authorised by Mr Ernest Saunders, Mr Oliver Roux and himself, who formed a committee of the Guinness board. In the present proceedings Guinness sought an order for immediate repayment on the ground that the payment was unauthorised under its articles of association. The Vice-Chancellor made the order sought by Guinness and his decision was affirmed by the Court of Appeal. Mr Guinness now appealed. Dismissing the appeal, the House of Lords stated that article 91 drew a contrast between the board and a committee of the board. The board was expressly authorised to grant special remuneration to "any" director who served on "any" committee. It could not have been intended that any committee should be able to grant special remuneration to any director, whether a member of the committee or not.

**THE PO** (FT, February 16)

Article 1(1) of the Collision Convention provided that a collision action could only be introduced before the court of: (a) the place of the defendant's residence or place of business; (b) the place of arrest of the defendant ship or of "any other ship belonging to the defendant... or where arrest could have been effected and bed or other security has been furnished"; or (c) the place of collision, when it occurred within port limits or waters. Article 1(2) provided that it should be for the plaintiff to decide in which of those courts the action should be instituted. The plaintiffs relied on article 1(1)(b), in an action arising out of a collision of a US merchant ship, the Po, with a defendant Italian ship, the Po. Refusing the application by the defendant owners that the action be stayed, the House of Lords held that the Po was a US ship and that the Po Club to pay any sums due to the plaintiffs so that the crucial words of article 1(1)(b) applied, namely that "bail or security" had been furnished.

Aviva Golden



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## MANAGEMENT

## Overseas listings

## Mining a wider seam of shareholder loyalty and enhancing financial clout

Simon Holberton examines the motives of companies seeking quotations on a number of stock exchanges

If all the necessary documentation can be completed by the end of this month, RTZ Corporation will make its debut on the New York Stock Exchange in June. It is already listed in London and on seven other European stock exchanges.

The documentation is a US Securities and Exchange Commission requirement to ensure that RTZ's financial reports conform to US generally accepted accounting principles (GAAP). It is now nearing completion.

George Naylor, head of investor and public relations, opens a huge file and on top sits RTZ's draft Form 20-F, the SEC document in question. RTZ has up to six months after it last reported to get a listing on NYSE and it last reported for the year ending December 31 1989. The SEC can take up to eight weeks to process a Form 20-F application, hence the need to get it to the SEC by the end of April.

Ian Strachan, RTZ's finance director, says the document is just like an annual report and adds: "The regulatory problems [associated with a US listing] are much less onerous than we first thought." The main adjustment RTZ has to make to its UK accounts to bring them in line with US GAAP requirements concerns goodwill and the way it accounts for its mineral reserves.

More and more British companies are looking to list themselves on foreign stock markets, especially in New York. So far, 50 British companies have sought a listing on one of New York's three stock exchanges, accounting for nearly half of the 102 UK-based companies which have listed on foreign exchanges. The reasons for a foreign listing are three-fold:

● If as many companies and RTZ in particular believe, there is unfulfilled demand for their shares, then making it easier for a wider investor population to buy their stock should produce a higher share price than otherwise would be the case.

● A foreign listing, particularly in the US, gives the company access to a much larger potential pool of capital than it currently enjoys. As a complement to its decision to list on the NYSE, RTZ is also seeking a rating from Moody's Investor Services and Standard and Poors for its short and long term corporate debt. This will allow it to seek access to the US commercial paper market, the largest market of its type in the world.

● A broad geographical spread of share ownership and a higher than otherwise share price might make it more difficult for a company to be acquired.

Strachan says this consideration was "neutral" in his and RTZ's thinking about listing on the NYSE. A company's size, he says, is no longer a guarantee of protection against a predator.

● A related issue is the loyalty of foreign shareholders. Before the October 1987 stock market crash, US investors owned 7 per cent of RTZ. Virtually overnight that holding fell to 3 per cent where it has remained since; the stock was dumped in London, where much of it was held by US funds, and RTZ's share price, along with all others, fell sharply.

There is no way of knowing, or proving, that US investors would have held RTZ shares during those dramatic days but the experience of other companies, such as Imperial Chemical Industries which took a full listing on the NYSE in 1983, is illuminating.

Alan Clements, the finance director, notes that before the October crash, US investors held about 16 per cent of ICI's equity through American Depository Receipts. Today US investors hold 11 per cent of ICI's equity in the form of ADRs. Prima facie, it would appear that the greater the market's familiarity

approach to the US market, both investor and analyst alike, has all the hallmarks of a professionally mounted and executed plan. "Consistent" is a word Strachan likes to use when describing what is required in the US and consistency is a virtue many considering listing in New York would do well to imitate.

During 1987, Strachan lobbied his fellow directors in support of a US listing. Finally, in early 1988 he won approval to investigate it further. He went to New York to meet the top half dozen "sell analysts" - the analysts on whose advice the investment community leans - at brokerage houses and investment banks. The message he received from them was that US investors would be interested in RTZ, but it needed to be listed on a US exchange.

He then set out to discover the potential market for RTZ stock among the US investment institutions. He hired a consultancy, Gavyn Anderson & Company which, by the summer of 1988 had prepared a detailed report on the major US institutions: their size, their attitude toward investment and the person concerned with natural resources and min-

**"Consistent" is a word Strachan likes to use when describing what is required in the US and consistency is a virtue many considering listing in New York would do well to imitate.**

ing stocks.

RTZ's finance director then turned salesman. In more than 100 meetings with institutional investors, some more than once, he attempted to sell them the idea of globalisation. He winces at the use of the term but says: "I believe that global stocks are the 'wave of the future.' Investors will not only want stocks rooted in a domestic market but ones with an international spread of businesses like RTZ."

Unlike the mining stocks with which US investors and analysts had been familiar, RTZ was not a single commodity stock; it has a broad range of mining assets located throughout the world, the income from which is denominated primarily in dollars and other major currencies.

"Single play stocks" as he calls the other US mining companies are vulnerable to the vagaries of the economic cycle.

RTZ is more complex than that, with mining assets that include copper, gold, iron ore, coal, titanium, aluminium and borax, to name but a few. The latter

came into the RTZ portfolio through its purchase of BP Minerals last year and Strachan uses that acquisition to underline the fact that RTZ is also a significant US company; a third of its operating assets are now located in, and half its attributable profits now derive from, mining activity in the US.

"The first year was quite uncomfortable; no one knew us," Strachan says. "Analysts wanted to go into great detail about our copper and aluminium operations." The questioning was aggressive. They wanted to know what our earnings would be... tomorrow. We don't give earnings forecasts and we don't normally discuss our business in such detail. A lot told us 'if you don't tell us more than you are prepared to then we're not buying you'."

Generating analyst interest is one of the crucial paths to success in New York. As Strachan says, a company has to be followed by a group of sell analysts. Analysts themselves are market driven and their market is the US investment institutions which buy stocks through a US stock exchange.

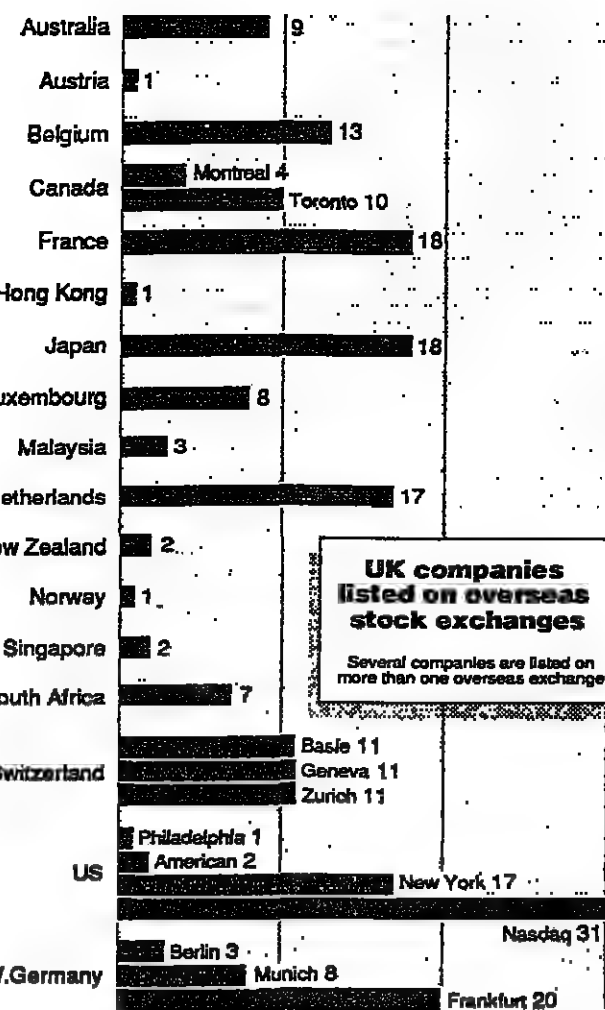
As Strachan, and others, note, the US analysts are a breed apart. They have a consuming desire for detail, are experienced and curious researchers, and are always on the look out for the interesting angle.

As ICI's Clements notes: "You have got to be prepared to make the effort and go over there even when times are bad. They give you more marks for telling them about your problems and how you are dealing with them than for achieving unexpectedly high earnings."

Despite the bruises of the first year Strachan repeated the exercise last year when the 1988 final results came out in the spring and the interim results in October. Derek Birkin, RTZ's chief executive, participated in the latter meetings with investors and analysts. He discussed not only the results but the rationale behind the BP Minerals acquisition.

The involvement of not only Strachan but now Birkin in regular visits to the US to meet investors and analysts was one of the main issues which exercised the collective mind of the RTZ board. "The board didn't want Strachan, Birkin and Naylor in the US dogging RTZ with no return to us," says Strachan.

But, he says, the company's objectives are clear and limited. Over the medium-term (five years), RTZ wants to build up its US shareholding to about 10 per cent of its market capitalisation. "The shareholder register will not change overnight; it is a long-term exercise."



## Management abstracts

Employee surveys - filling the gap in management information systems. P Saul in *Asia Pacific HRM* (Australia), Nov 89 (13 pages)

Lists the reasons for undertaking an employee survey, eg to provide information on how employees are likely to react to a planned organisational change; identifies the problems associated with surveys, inter alia, employee suspicion about their 'real' purpose; considers trends influencing the use of surveys, such as a growing belief that people are a company's greatest asset. Presents guidelines for conducting a survey, warning that it must be part of the management information and control system and not a one-off exercise. The moral muteness of managers. F B Bird + J A Waters in *California Management Review* (USA), Autumn 89 (16 pages)

Highlights the reluctance of many managers to admit that they are acting morally, even when they are. Argues that they talk as if their actions are guided exclusively by business interests. Examines reasons why this should be - citing the threat to organisational harmony and efficiency and to images of power and macho management - and looks at the consequences. Discusses ways in which change interventions leading to greater openness in discussing moral issues, can be encouraged.

Putting customers first. K Berrand + R Kauten in *Business Marketing* (US), Dec 89 (5 pages)

Presents two examples of companies committed to measuring and improving customer service/satisfaction. GTE Telephone Operations conducts customer surveys to monitor perceptions of various service attributes. GTE found that high-quality service can be traded off through higher prices; it uses customer satisfaction measures for assessing managerial compensation (up to 35 per cent). The second case, Sonoco, a packaging supplier, has developed a 'relative perceived quality survey', essentially a monitoring system by which customers describe their ideal supplier and then rank attributes as to how they expect suppliers to perform.

Flow-back defeats one of the main purposes for listing on foreign exchanges: the desire for a wider geographical spread of share ownership. It also has undesirable effects on a company's share price when the shares issued for Japanese investors get sold back to London.

Although Ian Strachan, RTZ's finance director, is acutely aware of these problems, he says RTZ still wants to establish Japanese investor interest in its stock. A listing is not being actively considered and thought is being given to other possible ways of achieving the company's aim.

## COMPANY NOTICES



## ROBEKO N.V.

Further to the announcement published in The Times and The Financial Times on 17 April 1990 concerning the Cash Dividend payable 27 April 1990 the rate of exchange for the payment of this dividend on both Robeco N.V. Ordinary Shares of Fl 10 (at Fl 3.35) and Sub-Shares registered in the name of National Provident Bank (Netherlands) Limited (at Fl 0.335) is Fl 3.0850 = £1.

## UNITED KINGDOM RESIDENTS

The gross dividend is £1,072,667.00 per Ordinary Share of Fl 10 (Coupon No 88) and is subject to the following deductions:

10% Netherlands Tax	£0.1080488 per Share
10% United Kingdom Tax	£0.10722979 per Share
Net Payment	£0.86048549 per Share

## NON RESIDENTS OF THE UNITED KINGDOM

Where 20% Netherlands Tax is applicable, the following deductions apply:

20% Netherlands Tax	£0.2160978 per Share
20% U.K. Tax on Net Dividend (When Applicable)	£0.20113086 per Share
Net Payment	£0.64328627 per Share

Dividend entitlement on the Sub-Shares will be paid at one tenth of the above amounts, less M.N. commission of £0.00194087 per Sub-Share.

Where 10% Netherlands Tax is applicable the calculations are as for United Kingdom Residents, but relief from United Kingdom Tax is immediately obtained provided that the appropriate Return Revenue Affidavit is lodged with the claim.



## ROLINCO N.V.

Further to the announcement published in The Times and The Financial Times earlier this week concerning the Cash Dividend payable 27 April 1990 the rate of exchange for the payment of this dividend on both Rolinco N.V. Ordinary Shares of Fl 10 (at Fl 1.80) and Sub-Shares registered in the name of National Provident Bank (Netherlands) Limited (at Fl 0.180) is Fl 3.0850 = £1.

## UNITED KINGDOM RESIDENTS

The gross dividend is £0.5618320 per Ordinary Share of Fl 10 (Coupon No 81) and is subject to the following deductions:

10% Netherlands Tax	£0.0561832 per Share
10% United Kingdom Tax	£0.0551852 per Share
Net Payment	£0.4504636 per Share

## NON RESIDENTS OF THE UNITED KINGDOM

Where 20% Netherlands Tax is applicable, the following deductions apply:

20% Netherlands Tax	£0.1123664 per Share
20% U.K. Tax on Net Dividend (When Applicable)	£0.1004865 per Share
Net Payment	£0.32714056 per Share

Dividend entitlement on the Sub-Shares will be paid at one tenth of the above amounts, less M.N. commission of £0.00072897 per Sub-Share.

Where 10% Netherlands Tax is applicable the calculations are as for United Kingdom Residents, but relief from United Kingdom Tax is immediately obtained provided that the appropriate Return Revenue Affidavit is lodged with the claim.

## LEGAL NOTICE

IN THE HIGH COURT OF JUSTICE  
CHANCERY DIVISION  
IN THE MATTER OF PARKFIELD GROUP PLC  
AND  
IN THE MATTER OF THE COMPANIES ACT 1985

NOTICE IS HEREBY GIVEN that a Petition was on the 29th March 1990 presented to Her Majesty's High Court of Justice for the confirmation of the Share Premium Account of the above-named company as at the 19th day of August 1989.

AND NOTICE IS FURTHER GIVEN that the said Petition is directed to be heard before the Honourable Mr. Justice Vinelott at the Royal Courts of Justice, Strand, London, WC2A 2LL on Monday 30th day of April 1990.

ANY creditor or shareholder of the said Company desiring to oppose the making of an Order for the confirmation of the said cancellation of the Share Premium Account of the Company should appear at the time of hearing in person or by Counsel for that purpose.

A copy of the said Petition will be furnished to any such person requesting the same by the undersigned solicitors on payment of the regulated charge for the same.

Dated this 20th day of April 1990.

Wilde Sapie, Queensbridge House  
60 Upper Thames Street, London EC4A 3BD  
Solicitors for the above-mentioned Company.

## NORWAY

The Financial Times proposes to publish this survey on:

21st May 1990

For a full editorial synopsis and advertisement details, please contact:

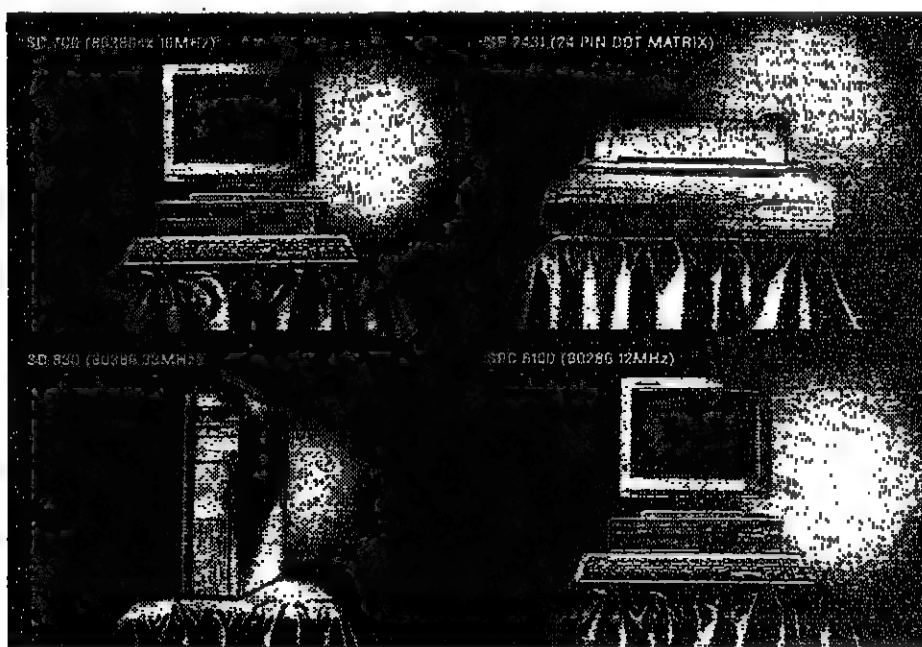
Chris Schaanning or Gillian King on 071-873 3428 or 4823

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## FINANCIAL TIMES

EUROPE & BUSINESS NEWSPAPER



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## ARTS

## Arts Week

F | Sa | Su | M | Tu | W | Th  
20 | 21 | 22 | 23 | 24 | 25 | 26

## EXHIBITIONS

## London

The Tate Gallery. The entire permanent collection has been rehanged so that the visitor may now take a natural circuit through the newly restored galleries, from 16th century British painting through to the most recent of modern international art. It is a curatorial triumph.

## Paris

Grand Palais. Soliman Le Magnifique. A treasure trove of goldsmiths' work, miniatures, ceramics and textiles recalls the splendour of the reign of Soliman the Great (1520-66), whose Ottoman Empire stretched in the 16th century from the Caucasus to the gates of Vienna and from Algeria to the Persian Gulf. Closed Tue, Wed late closing, ends May 14 (43985410).

Musée d'Orsay. The Fragmented Body. Parts of the human body, or the incomplete body form, the leading strand of an exhibition beginning with ex-votos and reliques and culminating in the celebration of Degas, Bourdelle, Maillol and especially of Rodin with his mastery transition from realistic to abstract sculpture. Ends June 3, closed Mon, entrance Quai Anatole France (40494814).

## OPERA AND BALLET

## Paris

Paris Opera. Swan Lake in Nureyev's choreography after Petipa and Ivanov with the Paris Opera Orchestra conducted by David Coleman and Michel Queval (4743371).

Théâtre de la Ville. Carolyn Carlson dances in *Light* performed for the first time, where she uses mythology to describe her quest for spiritual serenity (42743377).

## Milan

Teatro alla Scala. Lilliana Cavan's production of *Le Trovatore* opens this week, with Tiziana Fabbricini as Violetta and Roberto Alagna as Alfredo, conducted by Riccardo Muti (4805125).

Teatro Nuovo. Luciana Savignano and the Scala Ballet Company dancing Robert North's *La Jeune Fille et la Mort*. Ben Stevenson's *Three Princesses* and Fokine's original version of *Les Sylphides*, adapted by Lynn Wallis (78.12.18).

Centre Georges Pompidou. Pavel Nikolaevitch Filonov. A solitary figure of the Russian avant-garde, he refutes cubism and futurism as contrary to nature's - and art's - organic development. 'Every atom' of the surface of the 50 paintings and 150 drawings is given intense attention and basks in the light of idyllic harmony in cruel contrast to his own destiny. Closed Tue, ends April 30 (4271523).

Musée Carnavalet. Antique bronzes. Some 400 statuettes bring to life the Gallo-Roman world up to the 5th century. They are grouped in glass-cases around a divinity surrounded by objects of the appropriate cult. Closed Mon, ends July 1 (42722113).

Musée d'Art Moderne de la Ville de Paris. Kees Van Dongen. 132 works trace the career of the painter who, as one of the *Fauves* enjoys provoking the public with daring juxtapositions of violent colours, charcoal contours and green shadows. The Dutch-born artist goes further and shocks with erotic subjects and poses, only to subside later into portraiture of the elegant and famous. 11, Ave. Président Wilson. Closed Mon, late closing Wed. Ends June 17 (42726127).

Grand Palais. Pre-Columbian art in Mexico (1500bc - 1521ad). Some 130 exhibits from Mexico's archaeological museums bear witness to the high degree of artistic development of the ancient civilisations of the Mayas and Aztecs. A deep religious sense imbues their imaginary world peopled with divinities often represented as jaguars and serpents. Closed Tue, late closing Wed. Ends July 30 (43985410).

Musées Royaux d'Art et d'Histoire. The Enigma of the Easter Islands is partially deciphered in this exhibition of photographs and artifacts. Closed Monday,

ends April 29.

Musée d'Art Moderne. Retrospective of the Belgian abstract/avant-garde artist Englebert Van Amerlegh (1918-1961). Closed Monday, ends May 13.

## Ghent

Museum voor Schone Kunsten. Flemish Expressionism in a European Context (1900-1930) with works by De Smet, Ernst, Permeke, Van den Bergh and Zadkine. Closed Monday, ends June 10.

## Antwerp

Museum van Hedendaagse Kunst. Beeldenstorm. Anno 1900. Contemporary Dutch Artists. Closed Monday ends April 29.

## Venice

Palazzo Grassi. Andy Warhol Retrospective. 250 works from the major exhibition organised by Kynaston McShine for the MOMA in New York last spring, to which have been added about a dozen from private Italian collections. The show has since toured Chicago, London and Cologne, to end its tour at the Beaubourg in Paris this summer. Opening with Dick Tracy (1980) and closing with Warhol's version of Leonardo's Last Supper, done shortly before his death in 1987, the exhibition concentrates on the early works, 1960-1967, and the famous Marilyn, Liz and Coca-Cola series are shown to excellent effect in a particularly skilful layout by Gae Aulenti, in collaboration with Pontus Hultén. Until May 27.

Musée Correr. Jacopo Palma il Giovane (1548-1628). On show for the first time is one of the two albums of Palma drawings owned by the 18th century collector Anton Maria Zanetti (the other is in the British Museum) recently acquired by the

museum, together with a selection of paintings, mainly of biblical and mythological subjects. Ends April 29.

## Rome

Braccio di Carlo Magno in Piazza San Pietro. Michelangelo and the Sistine Chapel. This exhibition marks the end of a 10-year stint by Vatican restorers on the ceiling of the Sistine Chapel and the beginning of an estimated further four years' work on The Last Judgment. Remarkable for the exceptionally generous opening hours (open every day except Wed and on Sat from 9.30am to 11.00pm) and handsome catalogue as well as a rich collection of drawings by Raphael, Rubens, Annibale Carracci, showing clearly Michelangelo's powerful influence, the exhibition also carefully documents the techniques used and the difficulties encountered by the restorers. Particularly interesting is the 1541 copy of The Last Judgment, by Marcello Venusti, lent by the Capodimonte Museum in Naples, showing the brilliance of the original colours and the figures in their pre-draped glory. Ends July 10.

## Madrid

Museo Arqueológico Nacional. Art in the court of Naples in the 18th century. Different examples of art including paintings, sculpture, furniture, porcelain and tapestries produced during the reigns of two Bourbon kings: Charles III and his son Ferdinand IV. Ends May 6.

Fundación Caja de Pensiones. Conceptual art: a perspective. Overall view of this relatively unknown movement which is nevertheless continually nourishing contemporary art production. Works range from mid-60s to early 70s. Ends April 28.

## Cologne

Opera. *Manon Lescaut* has Ljubov Kazarmakaya in the title role. The Deutsche Oper am Rhein ballet dances *Chisla*.

## Frankfurt

Opera. William Forsythe's successful ballet *Limbo's Theorem* is again offered this week. Schoenberg's *Moses und Aaron*, produced by Herbert Wernicke, conducted by Frankfurt's musical director Gary Bertini, will have its premiere this week, with Gerhard Faustich as Moses and William Coelva as Aaron. *Ariadne auf Naxos* convinces thanks to Helena Doose, brilliant in the title role.

## Stuttgart

Opera. Philip Glass's opera *Achilles*, composed for the Stuttgart Opera, is a deliberate break from the American tradition, not only in its choice of the young Egyptian pharaoh as main figure but also in the corresponding use of African and Asian musical

## Barcelona

Museo Picasso. Cubist works belonging to the National Gallery of Prague - Kramer Collection. The show includes 17 paintings by Picasso together with an important selection of works by Czech and French artists. Ends April 28.

## Saarbrücken

Moderne Galerie. Growing on the Move. Retrospective of Paul Klee (1879-1940) in honour of the 60th anniversary of his death with around 100 oil paintings, water colours and drawings from all periods, to be seen until May 27. This is one of the most comprehensive Klee exhibitions ever.

## Vienna

Kunstforum. Works by the Romantics, ranging from Caspar David Friedrich to Adolph Menzel.

Museum für Volkskunde has a marvellously exotic exhibition called Jemen, focusing on the world around the Queen of Sheba. Ends June 10.

## New York

New York Public Library. More than 125 documents of the Abolitionist Movement, including photographs, letters and rare books, display the spirit and drive of the long effort to free the slaves. Ends Sept 15.

Jan Krugier Gallery. Graphics from the Marina Picasso Collection are on display under the title Picasso's Women. Until April 28. 41 E. 57th (765 7288).

Museum of Modern Art. In its serious, thorough way the museum gives its version of the history of photography, showing off earlier image-developing techniques along with 25 photographs. Ends May 28.

forms. The title role is excellently sung by the counter-tenor Paul Esswood. Also offered *Tosca*. *Lohengrin* with Eva Randova and Tom Kraemer, as well as a Ullrich Sonntag Lieders recital.

## Munich

Opera. *Salome* in August. Everding's production has first-rate cast led by Brigitte Fassbaender, Josephine Barstow, James King, John Broecker. Von Elm's rarely played Danton Tod proved a sensation when it opened in Johannes Schaefer's production with Amegor Stumpff, Maria Hausmann, John Broecker and Alejandro Ramierez. Guest ballet performance of the Lausanne Séjart group.

## New York

Metropolitan Opera. The week includes a complete series of performances of James Levine conducting Otto Schenk's production of the Wagner *Ring Cycle*, but starts with *Götterdämmerung*.

## Washington

National Gallery. A joint Soviet-American collaboration brings together Matisse's fruitful and arguably pivotal work in Morocco during his visit in 1912-13 including 23 paintings and 45 drawings, among them the famous Moroccan Triptych from the Pushkin Museum, never before exhibited in America. Ends June 3.

National Museum of Women in the Arts. The first major retrospective of the work of Dame Elizabeth Frink includes 50 sculptures and 25 drawings, including monumental bronze casts of male figures, portraits and animals in characteristic roughly textured heroic poses. Ends July 4.

## Chicago

Chicago Historical Society. The Land of Lincoln does its most famous citizens proud in the exhibition *A House Divided*. America in the Age of Lincoln, with documents, mementoes and personal effects of the Great Emancipator.

Chicago Historical Society. A special exhibit of Frank Lloyd Wright's designs for art-glass windows, furniture and silver shows why the details completed the Wright look. Ends June 17.

## Tokyo

Tokyo National Museum. National Treasures of Japan. Painting, sculpture, calligraphy, craftwork, archaeological artifacts, from prehistoric times to the long effort to free the slaves.

National Museum of Western Art. Bruegel and Dutch Landscape. 35 paintings on loan from the National Gallery in Prague. The centrepiece is Pieter Bruegel the Elder's magnificent *Haymaking*, with its wealth of circumstantial detail, and the focus is on the development of landscape painting as a genre from its beginnings in about 1600 to the mid 17th century. Closed Mondays.

merging, completing the first of the three cycles this season, and starts over with the second performance of *Das Rheingold*. The opera is conducted by James Levine also conducts the last seasonal performance of Franco Zeffirelli's new production of *Don Giovanni* with Carol Vanasse and Samuel Ramey. Karita Mattila and Jerry Hadley. Julius Rudel conducts John Cox's production of *Il Barbiere di Siviglia* with Kathleen Battle and Jon Henrik Rooker. Opera House at Lincoln Center (363 8000).

New York City Ballet. With a repertoire still heavily steeped in Balanchine, the company features a festival of Jerome Robbins' ballets in the middle of the season, which lasts till July 1. New York State Opera House, Lincoln Center (870 5870).

## Washington

Rudolf Nureyev Farewell Tour. Charles Jude and members of the Paris Opera Ballet and Royal Ballet join Nureyev in a mixed programme (Mon). Kennedy Center Concert Hall (467 4800).

## THEATRE

## London

Anything Goes (Prince Edward). Cole Porter's silly ocean-going 1930s musical has four or five marvellous songs and Elaine Paige falling to emulate Ethel Merman. Jerry Zalk's desperately bright production comes from the Lincoln Center in New York and is undemanding fare (734 8661, or 836 2480).

Jeffrey Bernard is Unwell (Apollo). Tom Conti has taken over as the alcoholic journalist who embodies a Falstaffian, saying life's force while committing public suicide by vodka. Keith Waterhouse has stitched a fine play, the season's highlight, from Bernard's own writing. Ned Sherrin directs. (437 3663).

Another Time (Wyndham's). New Ronald Harwood play, directed by Elijah Moshinsky, about a white South African family in Cape Town and Malde Vale. Albert Finney plays father and concert pianist son across 35 years, suggesting that talent is a means of escape and a reason for not going back. (397 1116).

Aspects of Love (Prince of Wales). Andrew Lloyd Webber's latest. (330 8972).

Shadowlands (Queen's). Four-tissue weepie about the love affair between crusty Oxford writer C.S. Lewis and the cancer-ridden American poet Joy Davidman, which pushes Nigel Hawthorne and Jane Lapotaire into the awards stakes. (734 1160).

## New York

On a Hot That Roof (Suzanne O'Neill). Kathleen Turner, whose statuesque good looks embody Tennessee Williams' vibrant character Maggie, is surrounded by an excellent supporting cast in Howard Davis' production. *Grapes of Wrath* (Cort). The Steppenwolf company's interpretation of the Steinbeck epic novel has taken a long time to reach New York from Chicago; the wait was worth it, with the 1930s brought alive in its squalour as well as its test of human strength.

Heidi Chronicles (Floyd). Wendy Wasserstein's award-winning drama covering 20 years in the life of a successful American baby boomer goes from support for Eugene McCarthy's presidential aspirations to electoral ambitions in the 1980s, accompanied by the musical and emotional favour of the period (238 6200).

Gypsy (St James). This 30th anniversary production does more than revive a rich, vivid musical; it also introduces a new belle in the Merman tradition, Tyne Daly, as the bossy, tireless and tumbling Rose, who shamelessly leads her daughter into burlesque while rejecting a personal life for herself (248 0104).

Grand Hotel (Martin Beck). Tommy Tune, Broadway's present musical doctor, directs this remake of the Garbo film to at least shake the bones of this inert depiction of lives in close-

ing in an elegant, but somewhat random setting (246 0104).

Sweeney Todd (Circle in the Square). An intimate production of the Sondheim-Wheeler musical in contrast with the elaborate original a decade ago emphasises the descent into madness of Bob Gunton as the demon barber of Fleet Street (393 6200).

Cats (Winter Garden). Still a sell-out. Trevor Nunn's production of T.S. Eliot's children's poetry set to music is visually startling and choreographically felicitous (238 0322).

Les Misérables (Broadway). The magnificent spectacle of Victor Hugo's majestic sweep of history and pathos brings to Broadway lessons in pageantry and drama (328 6200).

Phantom of the Opera (Majestic). Stuffed with Maria Bjornson's glided sets, Phantom rocks with Andrew Lloyd Webber's haunting melody and this mega-transfer from London (239 6200).

## Washington

The Cemetery Club (Eisenhower). Elizabeth Franz, Eileen Heckart and Doris Belak star in new playwright Ivan March's comedy of three widows who meet monthly to visit their husbands' graves. Ends April 29 (467 4800).

## Chicago

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## Tokyo

Kabuki. Kabuki-za (341 5131): two lavish mixed programmes (11am, 4.30pm) to mark the 50th anniversary of the death of the great Kabuki actor Utaemon V. Among those appearing is his son, 76-year-old Living National Treasure Utaemon VI. The highlight of the evening programme is Kago Tsurube, a famous 18th century play about a country bumpkin who falls in love with a courtesan, with tragic results. Excellent earphone guide in English and English-language programmes. Ends April 25.

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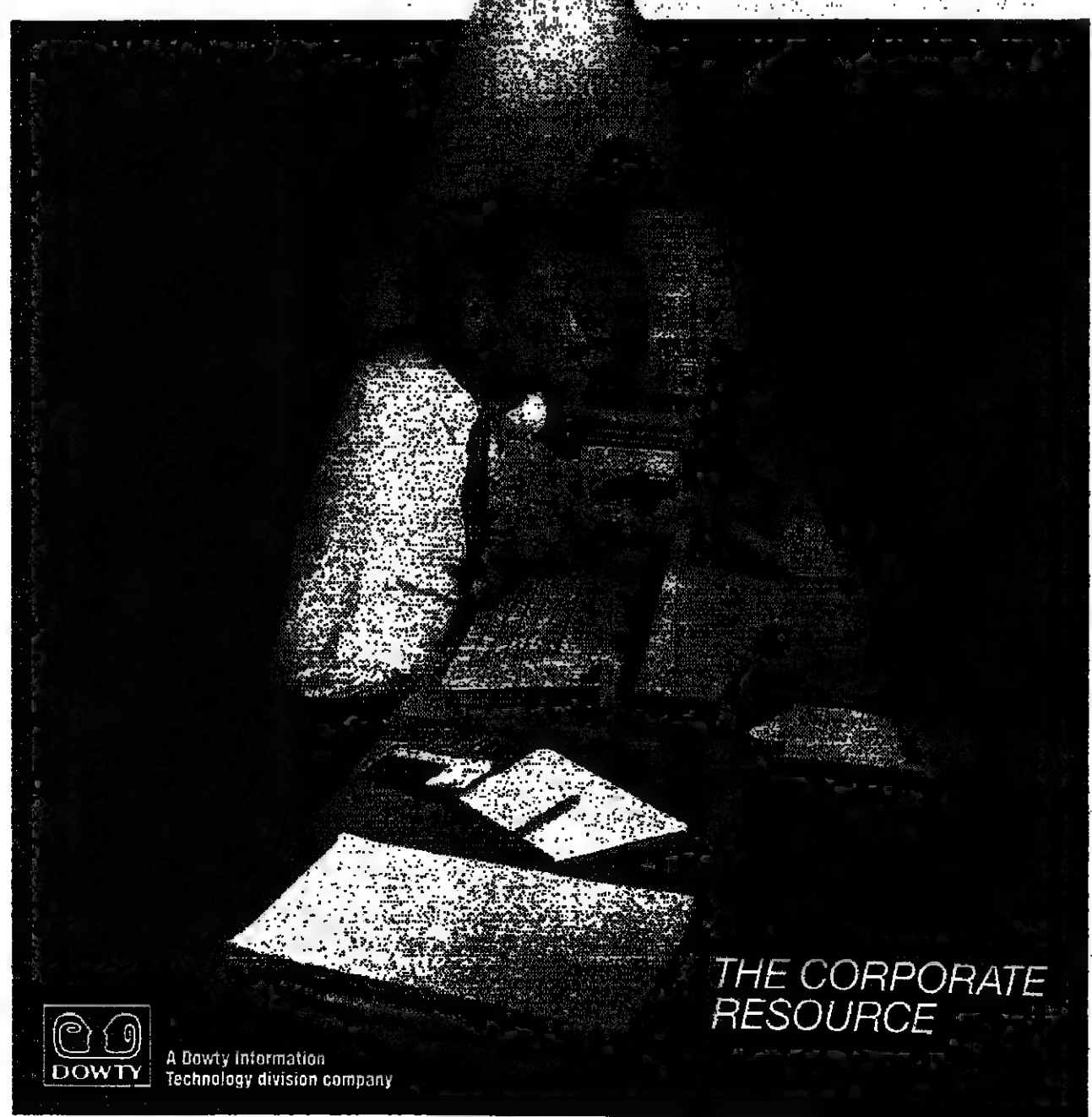
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## ARTS

## Colourful days in Dublin

Patricia Morison reports on the rehanging taking place at the National Gallery of Ireland

There is change in the misty air of Dublin, and the 1990s promise to be an important decade for lovers of the fine arts. Last week I visited the National Gallery of Ireland to see the half-way results of the gallery's refurbishment programme, which has so far cost £1.5m. The rehanging galleries were unveiled last month to mixed reactions, but Director Raymond Keavening is unrepentant about "maybe going over the top."

Italian Primitives hang on anaglyphic walls of time yellow, Flemish masters hang on scarlet, there are rooms of Prussian blue, lime-green, and crimson. However, it is the Irish galleries which are the focus of debate. To the gallery's habitués, James O'Connor's quietly verdant landscapes and the furious palette of Jack Yeats probably do look rather dated these days. Before they were seen on dirty grey damask. Now they are on intense "Veronese green," as Keavening describes it. But then, half the value of a rehanging is to make people look and think again.

Paintings are no longer double hung, which means that rather more of the National Gallery's collection of 2,500 paintings is now in storage. Fine Italian carving on the doorways has been restored and awful radiators in the centre of rooms have been eased. Five massive Waterford glass chandeliers hang in the original Sculpture Gallery. Its opulent decor of pale tangerine particularly suits Reynolds's portrait of the Earl of Beaumont, a ridiculous top with a forest of ostrich plumes on top of his silly head.

Light and opulence impressed visitors to the National Gallery when it opened in 1854. It was built by

Captain Francis Fowkes, an architect-cum-engineer. Fowkes was sent from London to rescue the project from Sir Charles Lanyon, an Irish architect with ideas considerably larger than the budget. Fowkes created the first gas-lit public collection, with Irish harps on the plaster work and maroon walls.

At first the new Gallery had almost no pictures and a tiny budget. This may have been the reason for the early purchase of splendid 17th-century Italian paintings, notably two beautiful Giovanni Lanfranco - they cover a lot of wall. The collection expanded under Directors kept permanently short of cash, so they bought many top-of-the-second division artists. It adds to the charm of the Dublin collection that it includes so many unfamiliar, and sometimes mysterious, pictures.

What, scholars have wondered, is going on in a Rembrandt's interior which shows men playing a parlour game? It could show a game called *La Main Chaudes* which was crude even by the standards of 17th-century horse-play. In which case, others should be looking at the Rembrandt's interior which shows women in the picture? There is mischief, too, in Godfried Schalken's *The Last Daughters*. A woman bears her breast and people peer to see that, yes, she has a mole beside her nipple. I also particularly liked a 15th-century painting named by Nicholas Francis of St Jerome translating the Bible with three exhausted scribes slumped in front of him.

The Dublin collection has had its share of warring attributions. A Titian "Ecce Homo," crucially cleaned in the 1850s and thought to be by lesser artists, is now generally and enthusiastically ascribed to the master. The "St Francis"

by El Greco, presented by Sir Hugh Lane during his Directorship, is also now regarded as an autograph work. Most recently, Rembrandt's only nocturnal landscape, a "Rest on the Flight," has passed muster with the Rembrandt Research Project.

Money remains tight at the National Gallery. Irish paintings have become expensive and the Gallery's purchase grant is a modest £50,000. However, the statue of George Bernard Shaw on the lawn reminds visitors of his love for the Gallery. For 50 years after his death (i.e. until 2000) the Gallery receives one third of his royalties, a sum which varies between £150,000 and £200,000 per annum.

From a state of serious dilapidation, the 1854 and 1903 wings have been made shipshape. The roofs are mended, there is new lighting, fireproofing, security and storage facilities. Now the 1908 wing needs complete internal reconstruction, costing £5 million. Connoisseurs of 1960s horror stories will not be surprised to hear that the wing has worn badly. The building is thin-skinned, badly lit, and shamed by the fact that it did nothing for the paintings. It became "a terrible embarrassment" and even damaging to the exhibits.

Keavening is one Dubliner who sees the good side of the limousines with blaring police escorts which ferry EC diplomats every few minutes into Merrion Square, Ireland's Presidency of the EC was a powerful card in persuading the renovation. The calendar has been kinder still; in 1991 Dublin will be the Cultural Capital of Europe.

Even so, and despite funds from the state lottery, money is a more urgent preoccupation



Now authenticated: El Greco's "St Francis receiving the Stigmata"

than ever. Keavening dreams of an Irish patron equivalent to the Sainsbury, for here is another National Gallery with a splendid site to develop. This week the gallery acquired an adjoining site of 10,000 sq ft, fronting onto Clarendon Street, from the British developers Hyde International. Keavening frankly admits that he does not know where money for the extension will come from. In Ireland business sponsorship of the arts is at present small-scale.

The EC effect may also be responsible for another cultural development. The Irish government has committed itself to establishing The Irish

Gallery of Modern Art, planned to open next year in the Royal Hospital at Kildare. The Director will be Declan McGonagle, nominated for the Tate Gallery's Turner Art Prize in 1987 for his work at the Orchard Gallery in Derry. Sir Sidney Nolan has promised a large donation of his work and Mr Gordon Lambert, an Irish businessman, has also donated part of his collection of modern art.

The government restored the Royal Hospital at a cost of £21m as a convention centre for the EC Presidency. It was then said to be too far from the centre of Dublin, which may bode ill for a major gallery.

Critics also object that the rooms at the Royal Hospital are too small for even moderately large canvases. But if you are in Dublin with an hour to spare, take a taxi to the Royal Hospital. Modelled on Les Invalides, it was created by Charles II in 1679 to offer army veterans "a comfortable Retreat and Maintenance." It is a wonderfully elegant grey stone building round a quadrangle and surrounded by gardens and fields. At the moment the Royal Hospital is used for banquets, concerts, and artistic events. Its future is one more enticing prospect for Dubliners to ponder.

## Crow

TRON THEATRE, GLASGOW

The dynamic theatre in the converted church near the old Glasgow Cross begins its build-up to the City of Culture's Mayfest with the first in an astonishing sequence of world premieres. Yet to come a successor to the highly praised +Steami+ that converts the space into a market; a new Marcella Rydzard; and the latest from Théâtre de Complicité, based on the works of the Renaissance Paduan, Ruzante, an earthly grotesque comic who may well strike a chord on the Clyde after four centuries.

Meanwhile the Tron has baptised a new auditorium. The Changing House, across a courtyard in what was the theatre wardrobe, seats only 90 and enjoys erratic sightlines from the back, but the bold choice of open space and the line of sight from the back of the house is a triumph. The red curtains of the conventional rounded proscenium arch in fact separate us from an unseen audience beyond. Crow, a performer, bows to the invisible applause with his back to us before returning backstage to show how to manipulate the crowd's roar. Soon, with silent keyboard and breaking banjo-strings - not to mention bursts of Handelian choruses unpredictably triggered off by touching the prop furniture - it becomes apparent that the form is manipulating him.

The theatrical setting (Graham Johnston's design even colours the brick walls a rich

red and black) is the framework for a two-man rendering of Ted Hughes' poem +Crow+. In white tie and tails Crow is soon dominated by his double, Douglas Henshall, a wide-eyed innocence, Peter Mulran, a sinister wide-mouthed amusement. The company under Michael Boyd's direction have evolved a series of variations to Hughes' text that exploit the tiny acting space to the full, resources ranging from a scene of passages that represents the divided world shared between Adam and Eve to a trapeze, waltzes (+ile+ Covent Garden) and screen projections. The result conveys the poet's black trickster at one remove, as if it were, an artificial distancing from the work as in the Walton-Sitwell +Fagade+ and an impression enhanced by Craig Armstrong's music (percussion, harmonium, piano) and the occasional song from Julia Dow, coolly acknowledging the audience as she drifts ethereally on and off. Dark gleams of misanthropy - and misogyny - and a sense of inexorable pitilessness add an authentic whiff of Hughes' "lunatic" to those who (to me, inexplicably) complain of the British theatre's subservience to the word, this is an intriguing riposte: a theatrical arabesque, visual curiosities to verbal themes that hold the attention ungrudgingly for 75 minutes.

Martin Hoyle

## Le Train Bleu

OAKLAND BALLET, CALIFORNIA

Ronn Guidi, artistic director of the Oakland Ballet in the Bay Area of California, has shown commendable enterprise in his revival of ballets from Diaghilev's Ballets Russes. In particular, he has been a leading advocate of the work of Bronislava Nijinska. The Oakland Ballet was the first American company to mount both *Les Noces* (in 1981) and *Les Biches* (in 1982), under the direction of the choreographer's daughter Irina Nijinska - Raetz. Nijinska's reputation rests on those two masterpieces.

Other works are more problematical - difficult to revive or, to be honest, less worth reviving. Of the ballets she choreographed for Diaghilev, the most celebrated after *Noces* and *Biches* was *Le Train Bleu* (1924). Subtitled an "opérette dansée," it typified his pursuit of the *dernier cri* during the second decade of his company's existence. Like *Les Biches* six months earlier, it peopled the stage with the bright young things of the 1920s. The setting, this time was a beach on the Côte d'Azur. Jean Cotteau devised the flimsy libretto and the costumes were actual resort wear designed by Chanel, bathing suits and sports clothes. Darius Milhaud provided the score, the decor (dominated by two Cubist beach-cabins) was by the Romanian sculptor Henri Laurens, and a painting by Picasso of two monumental female figures dancing on a beach was enlarged for the drop curtain.

Although the more conservative element of the Ballets Russes audience found the ballet frivolous, it was a big hit in Paris and especially in London. Frederick Ashton saw it there and said years later, "It was extraordinary the way Nijinska brought the modern world on to the stage."

The chorus of "bats and gnomes" put on dark glasses and went into slow motion to

watch the passage of an airplane overhead, scattering leaflets. Later, they produced box-cameras to snap the celebrities on the beach. The original inspiration for the ballet was Anton Dolin's ability to perform various acrobatic stunts, such as single-handed handstands and cartwheels, which Nijinska incorporated into the choreography for his role of the Beau Gosse. When Dolin left the company at the end of the season, Serge Lifar attempted to learn the part, but could not manage these tricks, and the ballet was dropped. (Nijinska staged a new version at the Teatro Colon, Buenos Aires, in 1928.)

Frank W D Ries, an American dance scholar, who has spent many years researching *Le Train Bleu* - interviewing Dolin, Lydia Sokolova, Leon Wolkowksi, and other dancers in the original cast - last year undertook to stage it for Oakland. At first Irina Nijinska tried to prevent this, but after seeing rehearsals she changed her mind and agreed to collaborate with Ries on the reconstruction. With choreography credited as "after Nijinska," *Le Train Bleu* was performed in Berkeley, California, last November, and again during the company's recent East Coast tour at the State University of New York campus at Stony Brook, Long Island.

The production looks pleasingly in the style of Nijinska as we know it from her two great works. The iconography of *Le Train Bleu* is extensive, including several full-stage action photographs taken for the *Times*, and these familiar images occur in the revival. Another source for the reconstruction was Cotteau's libretto, which was full of stylistic directions to the choreographer. It is clear that Nijinska ignored many of these, and relations between her and Cotteau

became strained. He made several last-minute revisions himself, substituting pantomime sequences for some of her dances.

Partly because of this, no doubt, *Train Bleu* seems less well integrated than *Biches*, whose neo-classic choreography transcends the triviality of the subject-matter (also originally proposed by Cotteau). The choreography of *Train Bleu* is more in the collage-like style of other late Diaghilev ballets: such elements as the acrobatics, exhibition ballroom dances (inspired by the cabaret team of Marjorie Mose and Georges Fontana), newsreel footage of the tennis champion Suzanne Lenglen, postcards and newspaper photographs, exist side by side with movements from the classic ballet vocabulary and Nijinska's characteristic architectural groupings (such as a pyramid of male bathers).

Ries's exemplary reconstructions of dances from Broadway musicals of the 1920s and '30s doubtless helped in the retrieval of some of this material. *Le Train Bleu* was clearly one of those ballets that depended very much on the personalities of its original interpreters, who were never replaced: Dolin, Sokolova as the bathing beauty Perleuse, Wolkowksi as the Golfer (after the Prince of Wales), and Nijinska herself as the Tennis Champion. Michael Lowe, Abra Rudisill, Don Schwenkassen, and Susan Taylor worked hard and were obviously carefully coached by Irina Nijinska and Frank Ries, but this kind of characterisation does not come easily to contemporary dancers. The corps de ballet sometimes looked as if they were doing "Sur la Plage" from *The Boy Friend*. I can't believe that every woman in the Diaghilev corps wore a knee-curl in the middle of her forehead.

David Vaughan

## Tancredi

GRAND THEATRE, GENEVA

Born Rossinians are a rare breed: all the more reason, then, to welcome Anne-Sophie von Otter to the fold. Having previously proved her distinction in Mozart and the late Romanticism, Miss von Otter has now launched herself into the bel canto repertoire in the title role of *Tancredi* at Geneva. Her performance, broadcast from the Grand Theatre last weekend on Radio 3, was of the kind that instantly stirs visions of all the other heroic mezzo roles in Handel and Rossini she will undoubtedly adorn in years to come. The way she has handled her artistic talent to date has demonstrated unusual intelligence and maturity, and this production clearly marks another staging post in her development.

Even before she sings a note, Miss von Otter bears the inimitable advantage of a handsome stage appearance: her tall, slender profile and magnificent carriage lend a dramatic authenticity to a role hitherto associated with singers of plumper proportions. There is no striving for effect, no gesture or movement that does not seem natural to the almost god-like youthful warrior she is portraying. Even in a trouser role (flowing robes, actually, in this production), Miss von Otter never looks less than attractive.

These qualities are amply reflected in her singing, which benefits from a Mozartian nobility of tone, clear diction and composure. She has that rare gift of evenness throughout the range, an ability to

combine feeling with absolute respect for note values. At present the voice sounds under-projected in the theatre, an impression encouraged by the lack of a final flourish in her arias. The temperament is also a shade cool and Northern for a Mediterranean hero like Tancredi. But these are petty complaints when her performance as a whole is so elevating.

Her principal partner was Katia Ricciarelli, a previously admired Amenaide who looked and sounded well below form on this occasion. Raul Cline's Argirio acted with dignity and seemed at ease with the suicidal tenor Tessitura. Harry Peeters, Suzanne Guzman and Donna Brown completed a distinguished cast. With Bruno Campanella bounding up and down in the pit, the music was in safe but less than scintillating hands.

John Copley's staging, borrowed from Chicago, provided an elegant framework and looked well-rehearsed. The decor, by John Conklin set the action within a theatre proscenium (closely resembling the Fenice where the work was first performed), filled with a succession of rich Gothic perspectives and drop curtains. Although Rossini's happy original ending is more in keeping with the piece, this production used the tragic alternative he wrote for Ferrara. Anne-Sophie von Otter justified the later version with her sublime vocal acting in the closing scene.

Andrew Clark

## The Dybuk

THE PLACE

London Contemporary Dance Theatre is this week presenting a programme of fresh choreography, under the ill-advised title *New Works*. Of the three pieces on view, two are inconsiderable save in their nuisance value. The third is a version by Ron Brandstrum of the celebrated Jewish play *The Dybuk*, which tells of the unquiet soul (the eponymous Dybuk) of a young man returning to claim a girl denied to him in life. In his recent creations Brandstrum - winner of this year's Olivier Award for choreography - a nominee for the *Evening Standard* ballet award - is much concerned with the problems of narrative. His beautiful *Oleo* for LCDT solved the matter on stylistic terms: baroque conventions supplied the legend's armature. In *Per Gyné*, despite many felicities, a folk-simplexity seemed too rigorous a manner to carry the burden of Ibsen's characters. In *The Dybuk* (which he made at the end of last year for his own Arc Dance Company) he has successfully used an invented folk-style to convey the intensity and almost ritualistic progress of the action.

In a brilliant UFA-style set of a grotesquely leaning interior (The Drawing Room of Dr Callaghy) by the Brothers Quay, to an accompaniment of Romanian folk-music, we see the heroine, Leah, prepared by her family for an arranged marriage. Haunting her is the ghost of her earlier love, Channon. Through the most direct means, with repetitions of movement, mimetic austerities, Brandstrum builds up tension to the moment when Channon finally possesses Leah. There is, until the very last, little that is merely dramatic or hysterical. There is, instead an inevitability and a developing sense of unease (admirers of Shirley Jackson's novels will recognise the pro-

cess) which argues Brandstrum's constant concern for a clear and purposeful narrative language. Channon - well taken by Andrew Robinson - is never frightening in behaviour, but wholly inescapable to Leah (Isabel McIntire). Amid the shadows of the set, the drama is unfailingly effective. It is a dance work having a consistent and uncompromising vision, and it is very welcome. There are good costumes by Craig Givens; good performances by the cast; atmospheric extra music by Ian Dearden.

For Aletta Collins' *It's Gonna Rain*, Tom Cairns has transformed the Place's stage area into a joyfully coloured box in primary colours, with a series of doors to left and right. In this arena eight dancers play children's games with limping runs, rushing through doors, tiny bursts of dance (fine, and well done), and hermetic dramas that suggest that the games and the rules are being made up as things go along. Fascinating for three minutes (if you can ignore the insane baying of Steve Reich's valiantly repetitious speech tape - the music of Hell), the piece becomes insufferable thereafter. There are tiny, vivid moments; they do not compensate for the tape-loop tedium of incidents repeated ad nauseam.

The other pieces of the evening, Jo Ann Jensen's *Noon* (on *Midnight*), which is inexplicable (I need only observe that Millionth Street runs between Angel Avenue and Pretensions Place, and that its inhabitants are afflicted with the galloping twitch, to identify the territory). It is danced to a string quartet by Scott Johnson. The cast contains some of LCDT's strongest artists, who deserve a far better address than this.

Clement Crisp

## ARTS GUIDE

## MUSIC

## London

**BBC Philharmonic Orchestra**, conducted by Edward Downes, with Neil Jenkins (soprano) and Dennis Sinanis (violin). Royal Festival Hall (828 8800).  
**London Symphony Orchestra**, conducted by Rafael Frühbeck de Burgos, with Stephen Hough (piano), Beethoven, Brahms (Sun). Barbican Hall (638 8891).  
**The London Philharmonic Orchestra**, conducted by Zubin Mehta, with soloists and chorus. Verdi's *Requiem* (Sun). Royal Festival Hall (828 8800).  
**English Symphony Orchestra**, conducted by William Boughton, with Michaela Fukasova (cello). Parry, Elgar, Dvorak, Vaughan Williams (Mon). Barbican Hall (638 8881).  
**The Philharmonia**, conducted by Neeme Järvi, with Yuri Bashmet (violin). Bartok, Walton, Szymanowski (Tues). Royal Festival Hall (828 8800).  
**The London Philharmonic Orchestra**, conducted by Zubin Mehta, with Zdzislaw Partman (cello). Bach, Elgar, Stravinsky (Wed). Royal Festival Hall (828 8800).  
**The Philharmonia**, conducted by Giuseppe Sinopoli, with Ralf Wotanabe (violin). Wagner, Paganini, Berlioz (Thurs). Royal Festival Hall (828 8800).

## Paris

**Ensemble 2e2m**, conducted by Paul Meanno, Irene Jarsky (soprano). De Beux-Beaux, Dancourt, Elissas (Tues). Radio France, Grand Auditorium (42301516).

**Ensemble Orchestral de Paris**, conducted by Friedemann Layer, Tatiana Nikolaiskaya (piano). Martinu, Mozart, Beethoven (Tues). Salle Pleyel (46888733).  
**Ensemble de la Musique**, conducted by Christophe Colin. Haydn (Wed). Théâtre des Champs-Élysées (47206357).  
**Orchestre de Paris**, conducted by Semyon Bychkov, Pascal Moragues (clarinet). Bizet, Brahms, Franck (Wed, Thurs). Salle Pleyel (46887056).  
**Orchestre National de France**, conducted by Y. Menuhin. Haydn, Brahms (Thurs). Théâtre des Champs-Élysées (47206357).

**Brussels**  
**Belgian National Orchestra**, conducted by Ronald Zollmann, with Daniel Blumenthal (piano). Paganini, Liszt, Saint-Saens and Tchaikovsky. Palais des Beaux-Arts (Fri).  
**The Philharmonia Orchestra**, conducted by Rudolf Werthen in a programme of Bach and Sweets (Sat). Cercle Royal Gaucuis.  
**KRTV Symphony Orchestra**, conducted by Andre Vandermort, with Stephen Bishop Kovacevich (piano) perform Beethoven (Sun). Palais des Beaux-Arts.

**Antwerp**  
**New Belgian Chamber Orchestra**, conducted by Jan Ceyers, with Josef De Beunhouwer (piano). Miesha Matzky (cello) and Augustin Dumay (violin). Schumann (Sat). De Singel.

**Berlin**  
**Berlin Philharmonic Orchestra**, under Gerd Albrecht with the Scharoun-ensemble plays a German premiere: *Die Schöne Winde* by Beethoven (Wed, Thurs). Philharmonie.

**Milan**  
**Johann Strauss Ensemble**, conducted by Peter Guth (Tues). Conservatorio G. Verdi (7601735).

## Rome

**Enrico Camerini** (piano). Mozart, Chopin, Liszt and Albaniz (Thurs). Teatro Ghione (6372294).

## Madrid

**Spanish National Orchestra**, conducted by Witold Lutoslawski, (Fri-Sun). Auditorio Nacional de Música (837 01 00).  
**European Community Youth Orchestra**, conducted by Mathias Bamert, with Salvatore Accardo (violin) and Mario Brunello (cello). Cartier, Brahms, Prokofiev (Fri). Auditorio Nacional de Música (837 01 00).  
**KRTV Symphony Orchestra**, choir and orchestra conducted by Heinz Fricka. Wagner (Sat). Auditorio Nacional de Música (837 01 00).  
**Maria Mercari** (piano). Beethoven programme (Sat). Fundación Juan March (435 42 40).  
**Matthias Fietzberger** (piano). Beethoven, Schubert (Tues). Auditorio Nacional de Música (837 01 00).  
**Spanish National Choir**, conducted by Alberto Blancfort. Rachmaninov (Tues). Auditorio

**Nacional de Música** (837 01 00).  
**Ensemble de la Musique**, conducted by Friedemann Layer, Tatiana Nikolaiskaya (piano). Martinu, Mozart, Beethoven (Tues). Salle Pleyel (46888733).  
**Ensemble de la Musique**, conducted by Christophe Colin. Haydn (Wed). Théâtre des Champs-Élysées (47206357).

**Orpheus Chamber Orchestra** of New York, with William Purvis (horn). Haydn, Mozart, Brahms (Wed). Auditorio Nacional de Música (837 01 00).  
**Wiener Streichorchester**, Beethoven, Krenk, Mozart (Thurs). Auditorio Nacional de Música (837 01 00).  
**Rotterdam Philharmonic Orchestra**, conducted by James Conlon. Mahler (Thurs). Auditorio Nacional de Música (837 01 00).  
**Berlin Philharmonic Orchestra**, Soloists. Bach, Rega, Mozart, Beethoven, Hartmann (Thurs). Auditorio Nacional de Música (837 01 00).

**Barcelona**  
**Soviet RTV Orchestra**, conducted by Vladimir Fedoseev, R. Rodin (cello). Vladimir Ovsianikov (piano). Tchaikovsky programme (Mon). Palau de la Música Catalana (301 69 43).  
**Wilhelm Furtwängler** (flute), Jaap ter Linden (violin), Jacques Ogg (harpsichord). Bach programme (Tues). Fundación Caja de Pensiones (317 57 57).  
**Orpheus Chamber Orchestra** of New York. Haydn, Shostakovich, Brahms (Thurs). Palau de la Música Catalana (301 69 43).

## New York

**Mieczyslaw Horszowski** piano

recital. Bach, Schumann, Beethoven, Chopin (Mon). Carnegie Hall (247 7800).  
**New York Philharmonic**, conducted by Leonard Slatkin with Emanuel Ax (piano). Mozart, Bolcom, Tchaikovsky (Tue). Yuri Temirkanov conducting. Shostakovich (Thurs). Avery Fisher Hall. Lincoln Center (874 8770).  
**New York Choral Society**, conducted by Robert DeCormier. Verdi (Thurs). Carnegie Hall (247 7800).

## Washington

**National Symphony Orchestra**, conducted by Lorin Maazel with Yefim Bronfman (piano). Debussy, Saint-Saens, Franck (Tue). Kennedy Center Concert Hall (467 4500).

## Chicago

**Civic Orchestra of Chicago**, conducted by Michael Morgan. Shostakovich, Zappa, Goldstein. Dhamabura, Corigliano. Orchestra Hall (436 6666).

## Tokyo

**Chicago Symphony Orchestra**, conducted by Daniel Barenboim. Duke of Edinburgh for the Chinese bedroom at Badminion House in the early 1750s. They had featured in *The Treasure Houses of Britain* exhibition in Washington in 1985 and went for £198,000.

Another item of noble provenance, a pair of Regency black and gold lacquer and japanned centre tables, doubled the forecast £145,000 while a George III Harewood, marquetry and

## SALEROOM

## Furniture makes good

Christie's held a good solid sale of English furniture yesterday which totalled £3,174,270, with a reasonable 13 per cent unsold. The top prices far exceeded expectations, especially the £231,000 (top estimate £190,000) paid for a pair of George III mahogany commodes. They are in the "French commode" style promoted by Chippendale and probably embellished adjoining bedrooms and dressing rooms which reduced the significance of different pilaster ornaments.

A George III marquetry cylinder neo-classical desk, attributed to Ince and Mayhew, and virtually identical to a desk supplied to the Duchess of Northumberland at Syon House around 1775, sold for £220,000, almost four times its forecast. Another lot of unusual design to do well was a pair of George II black and gold japanned armchairs by William and John Linnell made for the 4th Duke of Devonshire for the Chinese bedroom at Badminion House in the early 1750s. They had featured in *The Treasure Houses of Britain* exhibition in Washington in 1985 and went for £198,000.

Another item of noble provenance, a pair of Regency black and gold lacquer and japanned centre tables, doubled the forecast £145,000 while a George III Harewood, marquetry and

parcel-gilt side table, also doubled estimate at £121,000.

Sotherby's is hoping for record £1m for a lot of English silver on May 3 when it offers the Dunham Massey sconces, a set of six George II wall sconces, made in London in 1730 by Peter Archambo. They were made for, and carry the monogram and coronet of the 2nd Earl of Warrington. They have elaborate designs of mythological scenes and the additional mystery of being offered for sale by "a member of a Royal family."

A motorcycle owned by the late Steve McQueen is to be sold at Sotherby's auction at the Stafford County Showground on April 28th to coincide with the 10th Anniversary International Classic Bike Show. It is a rare 1937 Scott Flying Squirrel motorbike and sidecar and is expected to make £25,000. McQueen was a skilled motorcyclist, a talent he used to good effect in the movie *The Great Escape*.

The longest autograph manuscript by Beethoven to be offered at auction for many years appears at Sotherby's on May 17 when the 16 page first movement of his Sonata for Violinello and Piano in A Major comes under the hammer. Bids of up to £500,000 are anticipated.

Antony Thornicroft

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FINANCIAL TIMES



Friday April 20 1990

## Europe's road to union

THE JOINT proposal by the French and West German leaders to complement a European Economic and Monetary Union of the Twelve with a political union could not have come at a more significant moment. At a time when the Soviet empire is disintegrating and countries in eastern Europe are reasserting their national identity, here is a proposal which would lead western Europe, at least, in the opposite direction.

Quite apart from rekindling the debate between federalists and those who want to see a much looser grouping of nation states, the Franco-German plan will be seen by its critics as irrelevant to the vast political and economic problems facing Europe as a whole. When you are trying to build a "European home" embracing both western and eastern Europe, why complicate matters by constructing an exclusive shed at the western end of the garden?

Yet the two projects are far from being mutually exclusive. Indeed, President Francois Mitterrand and Chancellor Helmut Kohl see them as intimately linked, with greater west European integration a condition of closer ties between the European Community and eastern Europe. The reasoning behind this argument is that in an increasingly fragmented Europe, there is a need for a cohesive nucleus of prosperous and democratic countries which will act as the motor for the rest of the continent.

### Firm anchor

At the root of the Franco-German plan lies the common desire to see a unified Germany firmly anchored in western institutions. It was no secret that President Mitterrand, though his concern was not expressed as vigorously as that of Mrs Margaret Thatcher, was equally worried by the possible consequences of the speed at which German unification was taking place. By proposing to give the European Community a political and security dimension in the near future, the aim of both the French and German leaders is to make sure that West Germany will not abandon its West European partners in favour of eastern ventures.

That is an objective which

the British government fully shares and it would be a tragedy if, once again, Mrs Thatcher were to set her face against a development of the Community which is inherent in its foundation charter. Because she does not like terms such as "European union" or "political union", which the Prime Minister fears are code words for the kind of federalist Europe she utterly rejects, she is again likely to have deep reservations about the latest Franco-German project. However, these terms, so loosely employed by European statesmen, do not necessarily mean all that the Prime Minister fears. The history of the Community shows that practically everything is negotiable, including the precise definition of a political union.

### Pilot studies

For the moment, all that the French and West German leaders are proposing is that the member countries should launch preparatory studies ahead of an inter-governmental conference on political union which they would "like" to meet in parallel with a similar conference on economic and monetary union before the end of the year. Their objective is that economic and monetary union, as well as political union, should come into effect on January 1 1993 after ratification by national parliaments.

That timetable may well be over-ambitious and is clearly open to discussion. So, too, will be the proposed terms of reference for the studies, which should include, according to Mr Mitterrand and Mr Kohl, a strengthening of the democratic functioning of the Community's institutions and the definition of a common foreign and security policy. Britain would certainly want to bring some precision to this agenda.

What is important is that Britain should be present from the very beginning at discussions which could give a new dimension to the Community's development. The UK's absence from the table would do little or nothing to halt that development. Its participation would ensure that a British stamp would be put on the shape of a European political union.

## Mitterrand, the monetarist

WHICH leader of a major, once profligate, country has been most prepared to accept high unemployment in order to rid his (or her) country of the scourge of inflation? Mrs Thatcher, comes the obvious, but wrong, response. The leader who deserves the monetarist palm is Mr Francois Mitterrand.

Since the policy U-turn of 1983, France has pursued a single-minded disinflationary policy. Naturally, this being France, the policy is presented in mercantilist terms. It is "competitive disinflation", with the principal competitor being its main European partner, West Germany.

The aim of French policy, an aim over which there has been no real dissent in policy-making circles, has been to reduce unit cost inflation below the level of major competitors. From the discussion in the latest OECD report on the French economy, the policy has been remarkably successful. After a decidedly difficult start, France now seems set to combine growth of 2½-3 per cent a year with low inflation over the 1990s.

The contrasts with the UK are remarkable. In what started off as Mr Mitterrand's Keynesian France, broad money grew by 53 per cent between 1983 and 1989; over the same period, it grew by 142 per cent in Mrs Thatcher's supposedly monetarist Britain.

Mr Mitterrand's Socialist Government allowed real wages to rise by less than 6 per cent between 1983 and 1989, while Mrs Thatcher's allegedly harsh treatment of organised labour produced real wage increases of 20 per cent. Under Mr Mitterrand the unemployment rate rose from 8.3 per cent in 1983, to a peak of 10.4 per cent in 1987, and was still 9.4 per cent in February 1990. Under Mrs Thatcher, the unemployment rate peaked at 11.4 per cent in 1986, but fell quite sharply, to 6.1 per cent in February 1990.

### European rivals

France paid a price for this austerity. For the five years, 1982 to 1987, economic growth ran at a compound rate of only 1.6 per cent, when the UK was basking in a rate of growth of 3.3 per cent. The 1980s were, in

fact, the first post-war decade when the UK performed better than its European rivals and France performed markedly worse. The 1990s are likely to be rather different.

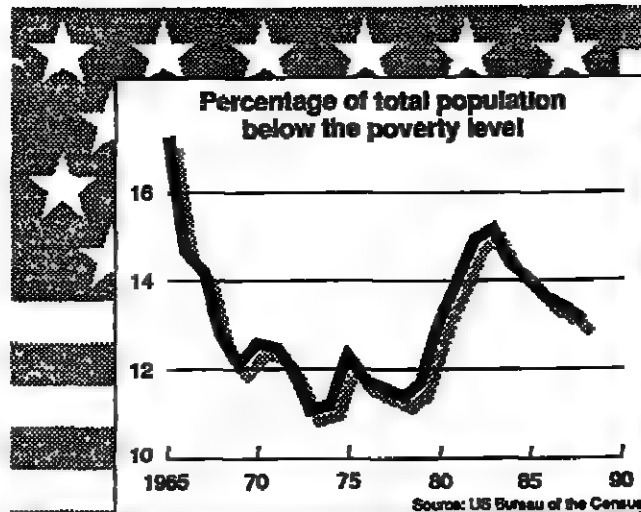
For France has not merely achieved its objective of low inflation, but has, unlike the UK, sustained that achievement. The differential in consumer price inflation *vis à vis* West Germany had fallen to only ½ per cent by the end of 1989. With nominal wages rising at less than half the rate in the UK and unit costs in manufacturing falling, France was able to improve its competitiveness against West Germany in both 1988 and 1989.

### Nominal stability

Some will argue that these French policies are not monetarist at all. But they have centred on membership of the European Monetary System, through which France has imported the Bundesbank's unquestionably monetarist policies. Furthermore, international monetarism shares with monetarism in one country the conviction that macroeconomic policy must be aimed at nominal stability not real activity.

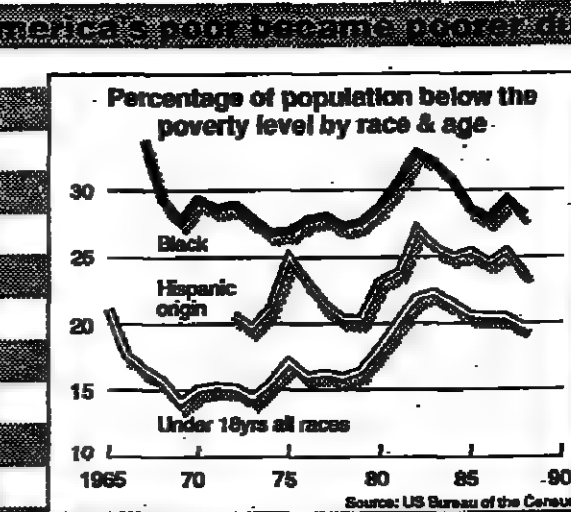
The most important difference between France and the UK has been one of emphasis: France emphasised stabilisation before liberalisation, while the UK has, in effect, chosen liberalisation over stabilisation. Consequently the tools available to France - notably exchange and credit controls - will not be available to the UK, when it does become a full participant in the exchange rate mechanism of the EMS. Will the policy work without those supports? More fundamentally will the British people, like the phlegmatic, patient French, put up with the years of slow growth that may be required?

Whether the British do succeed in following Mr Mitterrand's example, his disinflationary, mildly liberalising socialism has already proved influential. Mr Felipe Gonzalez is one disciple; Mr John Smith, Labour's Shadow Chancellor of the Exchequer, is another. Perhaps the main policy legacy of the 1980s will turn out to be neither "Reaganism" nor "Thatcherism", but "Mitterrandism".



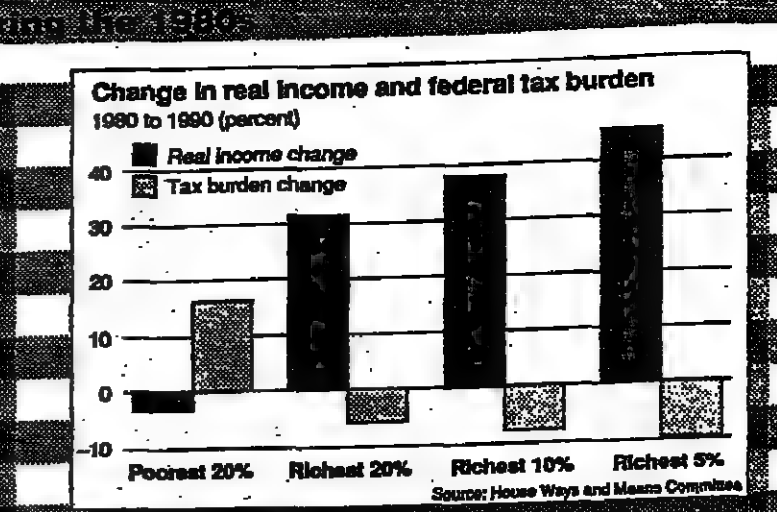
Percentage of total population below the poverty level

Source: US Bureau of the Census



Percentage of population below the poverty level by race & age

Source: US Bureau of the Census



Change in real income and federal tax burden 1980 to 1990 (percent)

Source: House Ways and Means Committee

In the first article in a series on US social problems, Michael Prowse examines the legacy of the Reagan years

## The not so Great Society

For millions around the world, the American flag is a symbol of an economic and social system that works. No country is more committed to personal freedom and the market economy than the US and no country offers the enterprising individual greater opportunities. In the past decade, the Thatcher Government has not been alone in seeking US remedies for domestic disorders.

But the US socio-economic model is not one to adopt uncritically. While much has gone right for the US in recent years, much has undoubtedly gone wrong. A quarter of a century after Lyndon Johnson launched his War on Poverty, social problems remain acute.

It's unduly optimistic to say we stood still in the 1980s, comments Henry Aaron, a senior fellow at the Brookings Institution, "we went backwards on poverty and homelessness and the distribution of income became dramatically less equal."

Mr Aaron, a liberal (in the US sense), might be expected to criticise the social record of Presidents Reagan and Bush. There is, however, a broad consensus in Washington that a decade of Republican leadership has done little, if anything, to ameliorate deep-seated social disorders.

The most the libertarian right can claim to have achieved is a change in attitudes: people are more inclined to distrust the federal government than in the 1960s and 1970s and less inclined to treat welfare payments as an "entitlement." There is much talk of "reciprocal obligations," and a greater willingness to seek state and local solutions to problems.

The cold statistics confirm Mr Aaron's pessimism. There is no evidence that changed attitudes among the middle classes have helped the poor and disadvantaged. President Bush may be calling for a "gentler, kinder America," but the figures suggest the US is steadily becoming a harsher and meaner country.

Take poverty. In 1988, nearly 32m people were below the official poverty line (about \$6,000 for a single person) compared with about 24½m in the late 1970s, when dollar queues were of comparable length. As a proportion of the population, the poverty rate has risen from 11½ per cent to just over 13 per cent. Many more families are classified as "near poor," the average pre-tax income of the bottom fifth of US families is only 84 per cent of the official poverty threshold.

Nearly a third of all Blacks and more than a quarter of Hispanics are below the poverty line. Children suffer disproportionately. Among Blacks and Hispanics, child poverty is running at 44.2 per cent and 37.9 per cent respectively. Nearly a fifth of all American children are officially classified as poor.

The plight of the poor contrasts vividly with the growing prosperity of upper-income families who benefited greatly from sharp tax cuts under Reagan's supply-side experiment. Ms Anne Lourey Bailey of the Chronicle

on Philanthropy points out that the "super rich" - the top 1 per cent of Americans - now own nearly a quarter of all individual wealth. The top 10 per cent may hold nearly 55 per cent of the nation's wealth.

A recent report by the House Ways and Means Committee reveals striking changes in the distribution of income. It estimates that the top 5 per cent of US families will receive 36.2 per cent of pre-tax income in 1990 compared with 31.4 per cent in 1980. The bottom 20 per cent's share will fall from 4.5 per cent to 3.7 per cent over the period. Since 1980 the top fifth have enjoyed a 31.7 per cent increase in real incomes; the bottom fifth are 3.3 per cent worse off.

Growing poverty and inequality are only the tip of the US's social problems. There is a national shortage of affordable housing. "Get off the subway in any American city," says Mr Barry Zigas, head of the National Coalition for Low Income Housing, "and you are stepping over people who live on the streets." He points out that the number of affordable units for rent has fallen sharply in the past decade while the number of poor households has soared.

The upshot is not just increased homelessness (which is estimated at anything from 350,000 to 3.5m people) but chronic overcrowding and severe budgetary strains on the low paid: 45 per cent of poor rental households now spend 70 per cent or more of their incomes on housing and utilities. Nearly a quarter live in housing officially classified as inadequate.

Performance in other areas of social policy is equally dismal. The US remains an exceptionally violent society. The standard of law and order taken for granted in most civilised countries seems unattainable. In 1988, by no means an untypical year, an astonishing 20,680 Americans were murdered: that is one person every 25 minutes. The rate in New York City alone was 1,878. In England and Wales, which has about a fifth of the US's population, there were only 624 homicides in that year.

Drug use among the young may have peaked. But the latest figures are scarcely a cause for celebration. In a recent survey, 3 per cent of high school seniors admitted to using marijuana, 17 per cent said they took only 13 per cent of high school gradu-

ates can calculate a restaurant tip accurately. A mere 3 per cent can orally interpret distinctions between different types of employee benefits.

Knowledge of American history (let alone world events) is sketchy: for example three out of four high school juniors cannot say when Abraham Lincoln was president. Test scores achieved by college entrants are well below the levels of the early 1980s. The US thus faces chronic problems across the whole spectrum of social policy. It does not matter whether you look at poverty, inequality, housing, crime, drugs, health care or education: the US is either losing ground or treading water.

Even conservatives are unhappy with the legacy of the 1980s. Stuart Butler, of the Heritage Foundation, admits that the Reagan Administration lacked a coherent social policy. Unlike Lyndon Johnson, the architect of the "Great Society" programmes of the 1960s, Reagan failed to articulate a vision of society: he just strived to cut taxes and curb expenditure. "It was a case of back first, rationalise later," says Butler.

President Bush's strategy is more subtle. It is to sound extremely concerned about social issues, but to do very little. The promotion of voluntary action through the "Points of Light Initiative" illustrates the approach. Every day, except Sundays and holidays, the White House locates a caring individual working for some good cause. The individual receives a personal letter of congratulation and is formally appointed a "Point of Light." The scheme costs almost nothing but generates much publicity - and derision.

On substantive issues Mr Bush appears to be making little progress. The Administration has no strategy for health care reform. On education the policy is to encourage parental choice, set ambitious, but unrealistic, goals (for example that US school children should be "first in the world in maths and science") and shift as much responsibility as possible to state governors. Few observers expect standards to rise significantly.

Mr Bush is pouring money into the fight against drugs and perhaps making a little headway. Responsibility for fighting poverty has fallen to Mr Jack Kemp, the Housing and Urban Development Secretary, who is strug-

gling to implement Thatcherite policies. The Housing Opportunities for People Everywhere programme (HOPE), for example, provides grants and incentives for homeownership among the low paid. Such policies may provide marginal relief but they are not going to correct the fundamental imbalance in the housing market.

Mr Bush, despite his failure to confront domestic problems, is proving an exceptionally popular President. This presents something of a puzzle for Europeans steeped in social democratic traditions. Why do ordinary Americans tolerate a society that is in such disarray? Why is there not much greater pressure for reform?

One answer, admits Isabel Sawhill, the director of the Urban Institute, is that "Americans lead fairly segregated lives." This is especially true of the capital city, where the Black/White divide is almost as clear cut as in South Africa. For middle class Americans living in pleasant suburbs, inner city areas might just as well be part of the Third World. Children no greater call on the conscience than those in Bolivia or Ethiopia - they are part of "another America."

The second reason for inaction is that the conservative counter-revolution of the 1980s undermined (already fragile) confidence in Great Society type programmes. The problem is that nobody is coming forward with alternatives that look plausible. "It's a time of real disillusionment," concedes Frank Karel, a senior executive at the Rockefeller Foundation in New York, "we're in a period without leadership." Mr Karel, a southerner with conservative leanings, is not criticising the Bush Administration which he regards as more a symptom than a cause of the present paralysis. His argument is that social problems have grown more complex and that no individual or group is now capable of "articulating a solution that commands consensus support."

Lurking behind the whole social debate is the President's infamous "read my lips" pledge - what Dr Sawhill at the Urban Institute calls the "comic opera" of federal tax policy. Few experts believe that money alone can solve problems, but most accept that tax increases must be diverted into domestic priority areas if the US is to raise educational standards, extend health care coverage, improve housing, reduce poverty and tackle lawlessness.

Mr Bush is an exceptionally lucky President. Given the tide of international events and the possibility of a substantial "peace dividend," a diversion of resources may not require higher taxes. The Administration may be able to tackle some of the US's appalling social problems without burdening the better off. But, given the public's low expectations, this will happen only if the President chooses to recognise his domestic responsibilities. At present, Mr Bush seems in no mood to make the necessary personal commitment.



### AMERICA'S SOCIAL CHALLENGE

World: in parts of New York, for example, life expectancy at birth is lower than in Bangladesh.

Nor does the US appear able to educate its young effectively. About a quarter of the student population fails to graduate from high school. The drop out rate is alarmingly high among Blacks and Hispanics at 35 per cent and 45 per cent respectively. Few of the young Americans who do complete high school attain worthwhile educational standards.

The problem is not merely that maths, science and literacy scores are low by international standards: few US students seem adequately prepared for everyday life. Tests suggest only 13 per cent of high school gradu-

### The mailman cometh

For someone who has lived more out of Britain than in it, there is a constant sense of amazement that the country is actually considered a democracy. These blithely thoughts are not prompted, as they might have been, by the ridiculous judgment against William Goodwin of the Engineer - fined for not revealing the source of information on a company which could not be named in an article which was never even written. It is, not surprisingly, the poll tax, which dropped through the letter box in its pre-capping amount yesterday, which excites the phlegm.

Anyone with a passing knowledge of American political history (which rules out every British MP except Denis Healey and John Gilbert) knows perfectly well that the poll tax was a device used in the south to stop blacks voting. The only difference was that it was never felt necessary to dress it up with some high falutin' moniker, like community charge. Community is, in any case, best known in parts of the south as a brand of strong, dark coffee; charged is what you get out of drinking it.

To the innocent abroad, it always seemed obvious that the intent of the poll tax was to disenfranchise the underclass in Britain, which is not very democratic. Yet we were repeatedly assured that there would be no cross reference between the poll tax and electoral registers. This seemed daft since neither would exactly be top secret lists, but the fiction was pursued.

Thus, in the House on July 1, 1987, Nicholas Ridley, dismissing the "schoolboy howlers" of the opposition, intoned: "there will be completely separate registers compiled on a different basis for community charge and for electoral purposes." Mrs Thatcher said pretty much the same on Feb-

### OBSERVER

ruary 16, 1988. "Failure to register on the community charge register does not in any way affect one's right to vote. Anything said to the contrary is totally false."

Now, my wife is American, born in Alabama, if you must know. She cannot vote in this country but is liable for the poll tax (what was that old American slogan about no taxation without representation?). She indeed was polled, or community assessed as we now say, filled in all the forms and waited. And within ten days she got back a letter wondering why her name was not on the electoral register. So much for the letter of the law.

### Corporal letter

There is another good letter going around this week. The government's failure to take any direct action against the Fayed brothers, who took heavy stick in a Department of Trade Inspectors' report on the acquisition of the House of Fraser, has aroused the interest of the indefatigable Tam Dalyell, the Labour MP. In his sights this week is Ridley, and perhaps Dalyell had looked up the Hansard extract quoted above. After watching the repeat of Channel Four's documentary The Harrods Sale on Good Friday, Dalyell has written to fellow old Etonian Ridley in his own inimitable style. "You and Douglas Hurd used to cane 13-year-olds for telling lies. Is lying now acceptable?"

Channel Four, meantime, is already at work on a new programme exploring the unanswered questions. They had better be quick. The way things are going these days new laws on privacy will probably prevent any serious investigation into the apparent reluctance of Tory ministers to pursue the issue.



"Still think it's an oil pipe?"

### Letter of the law

Absent a needed Bill of Rights, there is far too much tinkering around with laws these days. It is not only the bad ones coming in but also the good ones getting struck out. A perfect case in point is to be found in the new Finance Bill which has the brazen nerve to abolish one of the requirements of the Alcoholic Liquor Duties Act of 1978 that a distiller must provide lodgings for officers in charge of a distillery.

This clearly renders less attractive one of the most desirable professions. It may also be seen as a further attempt by the government consciously to alienate the Scots. Or perhaps it is a further disguised retreat from the community charge in Scotland. Presumably somebody would have to pay the poll tax for accepting free lodging.

But, before castigating all who rule us, a thought should be spared for Viscount Caldecote. As chairman of the Crown Appointments Commis-

sion which advises, if that is possible, the Prime Minister on the choice of a new Archbishop of Canterbury, he is well aware that he could be undertaking a controversial task.

Before ennoblement his father, Sir Thomas Inskip, was given the post of Minister for Co-ordination of Defence by Baldwin, and Winston Churchill described it as "the strangest appointment since Caligula made his horse a consul."

### Poll axed

My colleague Peter Martin tells me of a moment of acute embarrassment when he was plugging his new book, optimistically entitled How to Survive and Prosper in a Recession, on local radio this week. Introduced as "a financial expert," he was immediately felled by a basic question about the poll tax. The embarrassment was heightened by the fact that the question was promptly and accurately answered - by the disc jockey. Clearly, when it comes to the really tricky financial issues, you should look for the man with the greying ponytail and the Grateful Dead tee-shirt. Maybe he should run for parliament.

### Letter of credit

It is pretty obvious that the Iraqis are not going to be deterred by mere laws to get what they need. Yesterday's example was a Reuters report from Rio that an Iraqi diplomat choked two parrots to death at Brasilia airport this week. Authorities said Kadaru Ismail became upset when prohibited from leaving on a flight to Baghdad because he was trying to leave with two parrots protected by Brazilian law. So he strangled the birds. Well, they could have been homing device pigeons in disguise.

Jurek Martin

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A most overnight, the UK market for large scale power stations has gone through an unprecedented transformation.

Demand for large, conventional coal and nuclear stations has collapsed. Smaller gas turbine-powered units known as combined cycle stations have arrived with astonishing speed to become the dominant technology for at least the next decade. And, after years of supplying into a protected industry, UK equipment makers are having chunks of the business taken away from them by foreign competitors in a market that is now the most open in Europe.

"It has been all the shock to the equipment industry," says Mr Kelvin Bray, chairman of the gas turbine arm of GEC Alsthom, the British-French heavy engineering group. The consequences will have a significant impact not only on equipment makers but on Britain as a manufacturer of power station plant.

Electricity generation in Britain has been dominated by large coal, oil and nuclear stations in which all the principal pieces of machinery – turbines, generators and boilers – have been supplied by British companies with proven technology using factories in the UK. As in the rest of Europe, it has been a closed affair, based on a close if sometimes fraught relationship between the Central Electricity Generating Board and the main suppliers of traditional equipment, GEC, Northern Engineering Industries and, for boilers, Babcock.

Last year the construction of three large planned coal-fired stations and the virtual shelving of the nuclear station programme during electricity privatisation wrecked all this.

As a result, smaller stations powered by gas have emerged as the growth technology for electricity generation in the UK. These combined cycle plants produce power not only from their gas turbines but also from an auxiliary steam turbine. In the new, fragmented environment of electricity supply, such stations are more suitable. They are 20 per cent cheaper to build and their thermal efficiency (the ratio of energy produced to fuel used) is at least 50 per cent compared with 37 per cent for big coal fired stations.

But the emergence of this technology, requiring large gas turbines, has exposed a major weakness in the UK as a manufacturing country. Only one indigenous supplier, John Brown, produces such machines in Britain, and even that company imports a lot of the core components. Other

# Power struggle

Nick Garnett on changes in the electricity market



Fiddler's Ferry power station: a trend towards smaller, gas powered plants

leading UK equipment makers have only recently entered the field through alliances with continental European companies.

This weakness stems from the old structure of the electricity supply industry. Under the old regime, the CEBG controlled power station demand, was not free to use gas as a fuel, and as a consequence gave UK equipment makers no incentive to develop large combined cycle capability.

A further consequence is that foreign competition has become a fact of life. Within a few months, Siemens of West Germany has won the contract to build a 900 MegaWatt station at Killingholme, Humberside, for PowerGen, one of the successor companies to the CEBG. This was the first large-scale non-nuclear power station to be ordered in Britain for nearly 30 years.

Asea Brown Boveri (ABB), the Swedish-Swiss group, is building a 225MW power station in the North West in a deal involving Lakeland Power, which ABB controls, and Norweb, the north west England electricity board. Mitsubishi of Japan has won the contract for a 175MW station to be built on Teesside for ICI and Euron, the US utility company. In all these cases, the successful bidder possessed gas turbine technology.

Out of the dozen or so power station projects above 200MW either planned or agreed, only one has gone to a British company. This is the 350 MW station for Corby Power won by the European Gas Turbine Company, the gas turbine arm of GEC Alsthom formed a year ago between Alsthom of France and the heavy engineering interests of GEC. The gas turbines for that order will,

## The UK's power station market has already become a free-for-all for foreign competitors

however, be made in France.

From 1992, Europe's national power station markets will all be nominally open to foreign competition. But the UK has already become a free-for-all.

The British market faces two main questions. What are the factors governing who will get these orders for combined cycles, with an expected 8 to 13 GigaWatts of deals in the offing over the next 10 years? And, irrespective of that, how will all these changes in the industry affect employment and manufacturing capacity in the power engineering sector? Four or five companies are

now competing head on in Britain. GEC Alsthom manufactures in France gas turbines designed by General Electric of the US up to the 9E machine, a 123 MW unit. Before the formation of GEC Alsthom, GEC on its own did not have gas turbines large enough to meet these new requirements.

ABB, with its own proprietary technology, makes the larger 13E unit, a 148MW turbine. It recently set up a joint marketing company for the UK with NEL. This gives NEL and its parent, Rolls-Royce, access to big gas turbines for the first time. John Brown assembles artificially manufactures the General Electric 123MW, the same as that offered by GEC Alsthom. Siemens manufactures proprietary machines up to its 150MW model. Mitsubishi uses Westinghouse technology.

Securing orders in the British market is based on a matrix of factors, including specification, size, performance and the track record of the supplier.

The bigger Siemens and ABB machines have an advantage for some configurations. For example, two Siemens gas turbines harnessed to one steam turbine provide 450MW, which some competitors cannot reach with a similar configuration. Siemens is believed to have won the Killingholme deal with a very low price. Euron is

a user of Westinghouse technology which influenced the deal on Teesside.

However, there is clearly a competitive technology battle between companies with suppliers continually leapfrogging each other. One important feature is the level of thermal efficiency a machine can achieve without undue stress.

Mr Rolf Kehlhöfer, marketing vice president for ABB's combined cycle business, claims the ABB model is the most efficient on the market with a thermal efficiency 4 percentage points above the worst performer. A one per cent shortfall in operating efficiency equates to 3 per cent on electricity prices, he says.

Some other companies challenge ABB's claim. It is obvious, too, that if its 13E model has an advantage it will be under attack soon from a new generation of machines. General Electric is developing the 9F model rated at 212MW. "We recognise that this machine will give GEC Alsthom an extremely strong position and we will have a problem unless we do something," says Mr Kehlhöfer.

However, the first GEC Alsthom 9F will not be in service until June 1992. Meanwhile, Siemens is developing the V94.3, which Mr John Joyce, Siemens's deputy engineering director for combined cycles, says will be rated at about 200MW. In a deal with Rolls-Royce – which like General Electric but unlike ABB and Siemens has jet engine gas turbine technology – ABB is collaborating on the development of a 200MW machine.

Siemens has installed 30 combined cycle stations around the world, ABB about 60 but General Electric, including its manufacturing affiliates and associates, has supplied the highest share of the market. GEC Alsthom has supplied more than 40. John Brown has built 14 and is on the short list for National Power's planned 600MW station on Humberside.

The dramatic shift in the UK power station market is bound to have unpleasant consequences for employment and production capacity. Gas turbine stations require steam turbines, generators and boilers like big conventional stations. But the kit used is much smaller, requiring much less manufacturing space, and there is foreign competition for the ancillary equipment.

The size of British export orders for conventional stations will play a large part in determining how severe these consequences will be.

Additional reporting by Maurice Samuelson

## Eastern European reform

# Best of both worlds

By Michel Camdessus

The so far peaceful revolution sweeping through eastern Europe raises critical questions. Will all its promise be fulfilled? Will the process of reform be derailed?

Can the people of eastern Europe enjoy the best of both worlds, by reaping the benefits of a market system while retaining some of the apparent security of the planned system? Can reforms be implemented gradually, to reduce the disruption? Most difficult of all: is it possible, after these countries have suffered scarcities for so long, to ask them now to undertake such hard adjustments? No one could pretend to have complete answers to these questions, but experience suggests some pointers:

● Attempts to find a "third way" between central planning and a market economy have not been successful. Partial reforms failed in both Hungary and Poland. Both now accept the need for a more fundamental reshaping of their systems.

● If the aim is fundamental change in the system, it is probably a mistake to take a piecemeal approach. Because all the elements of the economic system are related, it is desirable, if you want a market-oriented system to work effectively, to introduce all the main elements at the outset.

You will want a price system that sends the right signals to producers and consumers, that reflects relative scarcities, and encourages an efficient allocation of resources. Freeing prices also means moving towards a more flexible system of wage determination. With a freer wage system, you need labour market policies that encourage labour mobility.

This also implies giving up some of the job security that has been a customary feature in these countries.

With greater scope for market forces, you will have to allow more decentralised decision-making. Enterprise managers have to learn to be fully accountable for their decisions, in a system that permits both the rewards of success – profits – and the consequences of failure – bankruptcy. At the same time, a social safety net is needed. These domestic elements of reform will work best if the system is simultaneously reformed to open the economy to foreign competition and the

benefits of fuller participation in the world trading system.

It is probably impossible to introduce these and the other necessary institutional and legal changes overnight, and it is important to design them carefully: but proper decision-making will develop more readily if elements of a market-oriented system are put in place from the beginning.

The economic reforms will only produce good results if they take place in an environment of strong financial discipline at all levels – from governments to individual companies. This means giving up long-held habits such as the tendency to subsidise or protect inefficient or ailing companies. We know all too well from some of the advanced industrial countries how hard it can be to resist pressures for such subsidies and how costly it is to society if governments fail to stand firm.

The introduction of market

and a price-wage spiral can quickly get out of hand.

Economic reforms alone are not enough. Reforming countries need financial assistance and investment. They will require considerable help from abroad, and a readiness on the part of the advanced industrial countries in particular to expand their trading and financial links with eastern Europe. The EC countries should continue to openly and generously welcome their eastern neighbours.

The IMF is extending substantial financial assistance to some of the reforming countries, to contribute to a closer integration of their economies into the global trading and financial network, and to act as a catalyst for financing from other sources.

Poland may be a test case for the comprehensive approach to reform. It started from a situation of economic crisis with \$40bn of convertible currency debt, and entered the last quarter of 1989 with an inflation rate of more than 30 per cent a month, a falling output, and a widening and unsustainable current account deficit. In this difficult position, the newly elected government has introduced, in very short order, a major economic package.

There are grave risks in the Polish programme, but so far the results are encouraging. We had thought that the first three months would be crucial, particularly as regards inflation – and if inflation had remained out of control, then other elements of the package would have been doomed. But prices have stabilised, after an initial spike in January, when key prices were freed.

On this basis, we are reasonably confident that the Polish programme will succeed, provided that authorities persevere with their reforms and the external support continues.

The years ahead will be difficult for the countries that are introducing reforms. There is much that the international community, including the IMF, can and should do to ease the transition and welcome these countries into a more complete participation in the world economic system. Everything must be done to help them succeed.

The author is managing director of the International Monetary Fund.

## Economic reforms will only produce good results when coupled with strong financial discipline

reforms in centrally planned economies can unleash pent-up forces that are hard to predict, and that need to be dissipated by appropriate policies. Prices are the most vivid example. Typically the pre-reform price system will contain many prices – for basic food items, housing and fuel, say – that have been kept artificially low for social reasons.

Low administered prices usually conceal a huge amount of repressed inflation – excess money holdings and shortages of goods that are reflected in long queues, black markets, and cumbersome barter arrangements. When these prices are freed, and market forces start to produce a correct structure of relative prices, there is almost always an initial surge of price increases. This can be a relatively short-term phenomenon but only if financial conditions are kept tight enough to absorb the excess liquidity. If financial policies are loose, then inflation can snowball when price controls are lifted.

## LETTERS

### Turkey's place in Europe

From Mr Nurver Nures

Sir, I find Edward Mortimer's article ("Is this our frontier?" April 3) quite distasteful and trivial in the extreme.

The logic of an argument that Europe could renege on its commitment to Turkey's eventual full membership of the European Community now that the Iron Curtain is up is in itself laughable. Mr Mortimer's insult to injury by questioning Turkey's secularism and introducing a note of doubt about the prospect of the integration of the Turkish nation with a largely Christian Europe.

I am indeed shocked to find Turkey's European identity judged by religious criteria by someone who professes to be knowledgeable about Turkey. It is, in the first instance, fatuous to imply that fundamentalism as such is gaining a foothold in my country. Given Turkey's unblemished record of nearly seven decades of secularism, it is unthinkable that the system could deviate from its present laical and pluralistic course. Mr Mortimer should have mentioned that out of 24,608,541 votes actually cast in the 1987 general election only 7 per cent went to political parties purporting to give more weight to the role of religious beliefs in their programmes. This percentage has been steady over decades.

Mr Mortimer, with effortless superiority, also implies that the so-called Christian legacy of solidarity against the Ottoman Empire remains a key component of European identity. Such claims are surely anachronistic. Mr Mortimer himself states that "to many people, indeed, the very meaning of religion will seem obscurantist and reactionary." In this context I think it is also

important to remember that the Ottoman administration in Europe had an exemplary record of religious and racial tolerance. If this were not the case, it would be impossible to explain how the Greek Orthodox Patriarchate in Istanbul and the Orthodox churches in the Balkans and the Near East flourished for half a millennium in the midst of an "Islamic" empire.

Mr Mortimer is also on weak ground in implying that Turkey's Nato membership hardly seems to be a relevant criterion any longer for membership of the Community. He is apparently ignorant of the increased political significance of Nato in the shaping and stabilisation of European security. Turkey has been an integral part of Europe for six centuries and surely has a role to play and is in voice to be heard in this process.

As for Turkey's full-membership of the Community, Mr Mortimer seems to be unaware of the European Commission's "opinion" of last December whereby Turkey is deemed to be eligible for integration. The Commission was recently asked by the EC Council to draft as soon as possible a series of detailed proposals for a programme of comprehensive co-operation with Turkey that goes far beyond the existing association agreement. This is a further step in the right direction.

Mr Mortimer's entire article is based on false assumptions. The Muslim religion is the last of the major religions and is therefore liberal, forgiving and encompassing. With these tenets, to think of Islam as a threat to Europe is sheer nonsense. It is such minds as that of Mr Mortimer which were to some extent responsible for the

recent rise in fundamentalism in Islam, a reaction which is not limited to the latter but exists even in this great country where democracy flourishes at its best.

Minds like Mr Mortimer's will probably be surprised to see that as east European countries emerge in the form of new democracies, there will also be a revival of religion – how extensive we shall have to wait and see. What is happening in the Islamic world, including Turkey, is that, with growing economic improvement, people are more concerned with their roots and hence show growing interest in religion which has, as in Christendom, helped to mould their socio-cultural identity. In this process the world of Islam is destined to find its identity as the Christian world did and there is no threat whatever.

If we look at Europe, its past, present and future through the restrictive perceptions of Mr Mortimer, solely in terms of Christianity and Islam, it would be tantamount to reviving the world of crusades, an intellectual exercise inviting explosions. Even from the religious point of view there are so many similarities between these two major religions which we can build upon and so leave to future generations a world more tolerant and enriched, in practically all aspects.

I honestly and sincerely feel saddened that such a misleading article was given such prominence by the FT, a paper that is a disservice to our cherished religions and unfortunately inflames fundamentalism.

Nurver Nures, Ambassador, Embassy of Turkey, 43 Belgrave Square, SW1

### Women at work: myths and evidence

From Mr Peter Robinson

Sir, I should like to challenge the statement by Anne Showstack Sassoon (Letters, April 12) in reply to Martin Wolf's article ("Some myths about childcare," April 9).

She states – without evidence – that "women work part-time in Britain to the extent that they do, in large part, because of lack of nursery, after-school, and holiday provision."

This statement is simply not borne out by evidence from the Labour Force Surveys, which is the only systematic evidence at hand. The 1989 Labour Force Survey showed that fewer than one in 20 married women and one in eight single women were working part-time because they could not find a full-time job. The vast majority said they did not want full-time work.

It is also a mistake to give the impression that countries like France and Italy are "good" places for female workers, when unemployment rates for women in those countries are much higher than those for men – twice as high in Italy. Britain is unusual in having a female unemployment rate below that for men, even including women unregistered for benefit.

The broad thrust of Mr Wolf's article was correct in countering the widespread notion that there will be a labour shortage in the 1990s which will demand a vast increase in child care provision in order to encourage greater female labour force participation.

Over the next decade, the labour force is already forecast to rise by nearly 1m as the increased number of adult job seekers will more than outweigh the fall in young people in the labour market – and this is quite apart from the effect on employment of the deteriorating economic situation.

Any expansion of nursery provision, as opposed to child care, should be discussed on its educational merits and not as an employment initiative.

Peter Robinson, Deputy Director, Campaign For Work, Annex 5, Tottenham Town Hall, Tottenham Hall Approach Road, N15

### VAT and income/corporation tax requirements

From Mr C.M.M. Crichton

Sir, I read with interest Dominic Taylor's article ("Paras of the final VAT penalty," April 5).

Value-added tax was introduced in 1972 as a "simple tax" and, at that time, there was logic in VAT being administered by the Customs & Excise who had the experience of administering purchase tax.

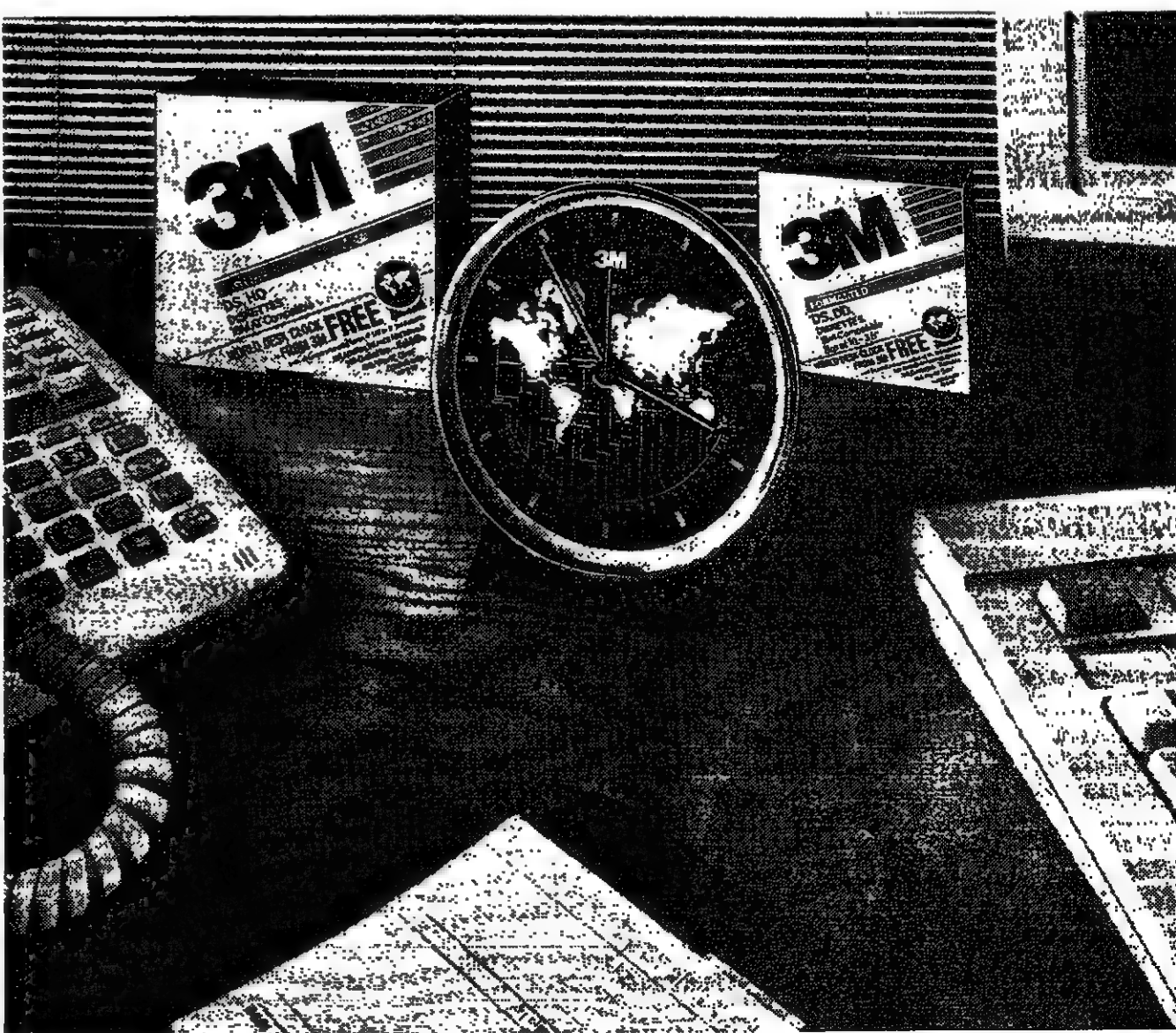
Today VAT is much broader based than purchase tax and

increasingly complex. This complexity is of real concern to many businesses as the requirements of the Customs & Excise for VAT, differ from the requirements of the Inland Revenue for income/corporation tax.

It now seems that a stage has been reached in the evolution of VAT where VAT and income/corporation tax requirements must be synchronised.

This, in turn, should mean that the Inland Revenue now assumes responsibility for VAT. For businesses this change could lead to a slight reduction in costs for accounting for VAT. However, it would certainly lead to a large reduction in the hassle and expense of professional fees in arguing on "grey" areas. C.M.M. Crichton, Monzie Castle, Crieff, Perthshire

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## BUSH, MITTERRAND TALKS

### US shelves plans for new nuclear missiles

By Lionel Barber in Washington

THE US is to postpone indefinitely production of new short-range nuclear rockets to replace the ageing Lance missiles in West Germany, the Administration confirmed yesterday.

The initiative is part of a developing US-sponsored plan to shift NATO's emphasis from land-based nuclear forces to air-launched nuclear missiles. It could also involve redeployment of nuclear forces from a united Germany to other members of the alliance, according to western diplomats in Washington.

Washington's aim is to respond to the easing of tensions in Europe and the impending unification of Germany, while ensuring that NATO remains the cornerstone of the western alliance.

President George Bush spelled out this message during talks yesterday with President François Mitterrand of France in Key Largo, Florida. The meeting follows a similar informal session with Mrs Margaret Thatcher last week.

The consultations aim to hasten progress on NATO's new military posture, which will be discussed in detail at a meeting



George Bush greets François Mitterrand yesterday in Florida

of the Nuclear Planning Group of NATO defence ministers in Canada early next month.

Once a consensus is reached within NATO, Mr Bush is expected to propose immediate negotiations with the Soviet Union to eliminate short-range nuclear weapons in Europe.

US officials declined to comment on reports that Mr Bush would propose that France pro-

vide air bases for NATO nuclear aircraft as part of the planned redeployment of the alliance's air wings.

Under President Charles de Gaulle, France left NATO's integrated military command in 1966, and the prevailing view in Washington is that Mr Mitterrand would find it politically unacceptable to reverse this decision.

US officials said Mr Bush had a more limited aim of coaxing France to be more supportive of US efforts to give NATO an expanded political role, and to win broad support for his emerging arms control initiative.

At her meeting with Mr Bush, Mrs Thatcher signalled that Britain would be prepared to drop its insistence on modernising the Lance missiles in West Germany. But she stressed that Britain wanted to see an appropriate mix of conventional and nuclear forces in Europe.

Britain has still to decide whether to collaborate with the US or the French on a new air-launched missile, and this subject is also bound up in NATO's discussions on its future military posture.

The US Lance nuclear missiles are deployed with six NATO armies, including the US Army, and are mostly, but not all, located in West Germany.

Even though the US is resigned to cancelling a replacement for Lance, a senior Administration official said it was essential to maintain a US nuclear presence in Germany.

## IMF issues warning to Spanish Government

By Peter Bruce in Madrid

THE International Monetary Fund has warned the Spanish Government that it must swiftly reach an agreement with employers and trade unions on boosting competitiveness to avoid a further deterioration in inflation and the current account deficit.

In a note to the Spanish Finance Ministry, an IMF team of experts warns that wages are rising so fast that the Government's efforts to cool the economy may not work in time to ensure a smooth entry to the single European market in 1992.

The IMF team, which recently spent two weeks in Spain, says: "It would be really unfortunate if a resurgence of inflation and a worsening of the trade balance made the economic advances achieved so far unsustainable in the long term."

The IMF's tough language, based on last year's record inflation of more than 7 per cent so far this year and wage settlements for 1990 of about 3.5 per cent, will be music to the ears of Mr Carlos Solchaga, the Finance Minister. Some analysts even suggested yesterday that Mr Solchaga may have dictated the text of the note.

Mr Solchaga has already persuaded Mr Felipe Gonzalez, the Prime Minister, to propose a "competitiveness pact" to the political opposition and the unions. The Government denies that this is merely a way of securing a wages agreement with the unions and says it is trying instead to link tax reform with union agreement on productivity.

Gonzalez wants the parliamentary opposition to collaborate on the tax reform, which would be designed to encourage savings. In return, he is promising the right-wing parties, which represent the business world, that he will reopen a dialogue with the unions in the hope of improving productivity and moderating wage demands.

The shape of the proposed competitiveness pact remains ill-defined. The IMF note tries to put some meat on the idea. "The fiscal reform in progress," says the note, "provides an opportunity to reach agreement on taxation and salaries... provided it is not achieved at the cost of budgetary equilibrium."

The three-way pact, the report says, must not damage the liberalisation of the Spanish economy achieved so far, nor impinge on the ability of employers to contract temporary workers.

The IMF note helpfully dismisses the argument that Spain should devalue the peseta, saying such a move, suggested recently by the Bundesbank, would undermine the important disciplinary reasons for joining the exchange rate mechanism of the European Monetary System last year.

With a tough credit squeeze already in place for a year and the peseta trading at the top of its EMS band, Spanish companies are beginning to view the advent of an open market in Europe in 1992 with a far more jaundiced eye.

## THE LEX COLUMN

### The downside of a rising yen

According to one school of thought, the yen has turned the corner. The weakness of US bonds and equities in the last couple of days, together with the strength of Japanese equities and the bounce in the yen, is taken as evidence that Japanese investors are finally making the switch.

In logic, there should come a point where Japanese institutions with heavy book losses on their domestic portfolios are driven to taking profits on their US bond holdings to make good the shortfall. The drop in the yield differential between US and Japanese bonds in the past fifteen months has been very striking; and from a Tokyo viewpoint, it has been accentuated by the weakness of the yen against the dollar. If undertaken en masse, a switch of funds back to Tokyo would be at least partly self-justifying through the effect on the exchange rate.

But it is not clear that the confidence yet exists for such a general move. Some still argue that short-term Japanese rates have to be raised again to match US levels, despite the inflation differential. And both the yen and the Nikkei, after all, are still within the trading ranges established over the past fortnight.

But it is worth recalling that a serious repatriation of Japanese funds would be the mechanism for transmitting the pressure on Japanese financial markets to the rest of the world. It is not quite clear what has brought the UK equity market, for instance, to its low for the year. But if, as seems likely, the problems are still largely domestic, the international backdrop is scarcely more encouraging.

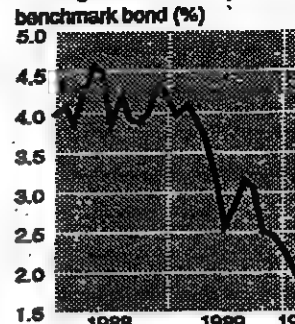
#### Marshall Field

Yesterday's most eloquent comment on BAT's sale of Marshall Field was the near 2 per cent drop in the shares of the purchaser, Dayton Hudson. The \$10-plus price tag is at least \$150m better than the Wall Street expected, which prompts three thoughts. First, this is further evidence that BAT's stewardship was never quite as arduous as Hoylake made out. BAT had been pumping capital investment into Field, partly to spruce up its Chicago flagship store, presumably leaving it in much better shape than other US department stores now on the block, like Bonwit Teller.

A second point is that the price does well both for BAT's disposal of Saks Fifth Avenue, and for the progress through Chapter 11 of the former Cam-

#### Yield differential

US long bond minus Japanese benchmark bond (%)



increase the appeal to those big borrowers who do not want to comply with the onerous SEC registration conditions for public issues.

Ideally, big West German and Swiss borrowers who still maintain hidden reserves would probably prefer the US to go the whole way and accept reciprocal listing arrangements. However, Rule 144a goes a long way to meeting their concerns; and there must be a danger that the attractiveness of the new market could undermine the appeal of the listed ADR market for foreign borrowers. However, the immediate benefit of the change will be felt by managers of global equity issues, who can now increase the size of their offering by promising a sizeable private US placement.

#### Albert Fisher

In view of yesterday's fresh evidence of how well Albert Fisher works as acquirer and operator, it gets harder to see why the food distributor had such a complicated £180m capital-raising exercise in January. Even before any more acquisitions, the company has a \$22m capital spending programme this year, which will take a chunk out of its income. But most of Fisher looks securely cash generative; and within yesterday's narrow taxable profits up 24 per cent like-for-like, trading margins rose significantly. Fisher's \$20m cash pile is not excessive, since its average acquisition size is about \$35m. What was surely not necessary was the recent warrant distribution, a deferred call for another \$110m. A good company should not underestimate shareholders by implying they would not support another proper rights issue when the time came.

#### Oil money

In the current hostile climate a 216m rights issue is reasonably noteworthy, especially when one of the company's biggest shareholders is British and Commonwealth. However, yesterday's 11:10 rights issue from Midland & Scottish Resources, one of last year's wonder stocks on the USM, is even more interesting. It is not yet paying a dividend and the bulk of the money is going to buy a half built mobile oil production facility, which has yet to find work from the company's managers. This may yet turn out to be another Lasso, but it is best to let the big institutions bet on it.

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The Economist this week has a lot about education, in Japan and in Britain.

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The Economist

## G7 urges tougher penalties on drug money

By David Lascelles, Banking Editor, in London

CLOSER international co-operation and tougher laws to combat drug money laundering were urged yesterday by a task force representing the world's leading industrial nations.

Their report, the culmination of nine months' investigation initiated by the Group of Seven at their Paris summit last year, represents the most high-powered response yet to the drug money problem.

The report says that international co-operation is still hampered by excessive bank secrecy, by the absence of laws

outlawing money laundering in many countries, and by shortcomings in mutual legal assistance.

It makes three central recommendations:

- That all countries should, without further delay, ratify the 1988 Vienna Convention which obliges signatories to outlaw drug money laundering, and creates channels for international co-operation.
- That financial secrecy laws should be amended where necessary to permit implementation of the task force's recommendations; and

● That countries seek to improve multilateral co-operation and mutual legal assistance in investigation, prosecution and extradition of money laundering cases.

There are a further 37 detailed recommendations which flesh out the report's main thrust.

The task force estimates the size of the drug money problem at about \$122bn a year, of which about \$85bn finds its way into the financial system to be laundered. But the report also says that the sheer size of these sums

should make them easier to detect.

The report was presented to national parliaments by finance ministers yesterday.

Mr John Major, UK Chancellor of the Exchequer, said Britain had already implemented many of the recommendations but further measures were being considered to reinforce defences against money laundering both inside and outside the formal financial sector. Money laundering under siege, Page 30

## Contras sign ceasefire pact in Managua

By Tim Coone in Managua

THE Nicaraguan government and leaders of the US-backed Contra rebels signed a definitive ceasefire agreement in Managua yesterday, putting an end to almost nine years of war which has cost an estimated 50,000 lives.

The ceasefire comes into effect immediately, and will be followed by assembly of the 12,000-strong Contra army in five enclaves ("security zones"), covering about 2,500 square kilometres in the north and centre of the country, by Wednesday next week, when President-elect Violeta Barrios de Chamorro will take office.

Government troops are being withdrawn to at least 20km from the edges of the enclaves, and UN peacekeeping troops will be in place by the weekend to supervise compliance by both sides with the peace agreement.

A separate demobilisation agreement was signed by Contra leaders and representatives of the incoming government, with Cardinal Miguel Obando y Bravo of Managua as a witness. This sets a deadline of June 10 for total disarmament and demobilisation of the Contra forces.



Chamorro: taking office

The latter point was the most contentious of 24 days of negotiations, and nearly torpedoed the ceasefire talks.

On Wednesday, Dr Aristides Sanchez, Contra spokesman, said in Managua there would be no demobilisation of the troops until there were reductions in the size, and changes among the leaders, of the official Nicaraguan armed forces, which are still controlled by the outgoing Sandinista administration.

The Sandinistas, however, appeared unwilling to sign the ceasefire agreement without a firm timetable for the demobilisation of the Contra forces, in accordance with the wishes of the president-elect and the other Central American presidents, who set a demobilisation deadline of next Wednesday at a regional summit this month.

The face-saving compromise thus allows the Contras to hand over their weapons to the new government of Mrs Chamorro, whom they supported in the electoral campaign, and not to the outgoing Sandinista Government, which they have fought, with US finance and support, since 1981.

Before this agreement, the Sandinista leaders had assented to the principal of significant reductions in the 80,000-strong Nicaraguan armed forces, once the Contras had been demobilised and in accordance with a regional agreement over mutual force reductions in Central America.

However, commentators on government-controlled radio

stations were cautious yesterday in their support for the peace agreement, saying that a previous ceasefire accord, signed in 1988, had collapsed when Contra leaders reneged on it. The Contra commanders who signed that accord were dismissed after a coup within the movement.

Mr Israel Galeano, known as Commander Franklin and now commander-in-chief of the bulk of the Contra forces, is not a signatory to the new ceasefire and demobilisation agreements.

However, Commander Ruben, head of the Contra negotiating team in Managua, said: "I represent the chiefs of staff of the resistance forces and I have come here to sign the ceasefire in compliance with orders given to me by Commander Franklin."

In a related development, Mr Bernard Aaronson, US Undersecretary of State for International Affairs, was due to visit Nicaragua yesterday after talks in Washington by President George Bush and President Rafael Callejas of Honduras.

## Marshall Field sold

Continued from Page 1

the acquisition would be financed with a combination of internally generated funds and a mix of debt instruments. Shares in Dayton Hudson had fallen by \$14 to \$69½ by midday yesterday on the New York Stock Exchange.

In the US, BAT has already arranged the sale of its Bremer's furniture retail and rental subsidiaries and hopes for a quick sale of its Ivey's specialty department stores once it has divested the bigger companies.

## Inflation fears send UK market to new year low

By Rachel Johnson in London

THE UK equity market hit a new low for the year yesterday as investors succumbed to concerns about rising inflation and the receding chances of a Conservative Party victory in the next British general election.

The FTSE 100 share index fell through the psychologically important 2,300 level to close at 2,184.7, down 21.5 on the day.

City of London economists said the market was dominated by inflation fears which had been not been eased by

rumours that the annual increase in the retail prices index would exceed 10 per cent in April. The potential impact of a Labour Party government on the financial markets - especially after the favourable reception given to Mr John Smith, the opposition Labour Party economics spokesman, by US authorities during his visit this week - had also begun to sink home for the first time.

They said that equities had - until now - been much less sensitive to the possibility of a

Labour Party government than bonds. Yields on bonds have tended to rise about half a point in reaction to the publication of each opinion poll showing the Labour Party's big lead over the Conservatives.

"One new factor in the poor outlook for bonds, and now equities, is that political risk is now uppermost in investors' minds," said Mr Mark Brown, a market strategist at UBS Phillips and Drew.

While fears about rising UK inflation were uppermost, City of London economists also

attributed equities' poor performance to the recent fall in the US financial markets.

US Treasury bond yields have been rising sharply this week in anticipation of higher interest rates to curb inflationary pressures. This dragged down prices of bonds and shares on both sides of the Atlantic, and yesterday started what one trader described as a "lousy day" in London. UK government securities also came under renewed pressure. Currencies, Page 46; World Stock Markets, Section II

## Lithuanians stand firm over blockade

Continued from Page 1

port of Klaipeda, 360km away from Lithuania's refinery.

Mrs Prunskiene told a press conference in Oslo yesterday that the Soviet oil and gas blockade was "not unexpected." But she added: "A closing of our economic borders in the east strengthens our decision to open up new borders to the west."

The mood in Vilnius, the republic's capital, was reported calm as the Baltic state was left with enough energy to keep households going for up to six weeks.

Lithuanian industry, including large chemical plants, relies heavily on gas for power

generation. It is not technically possible for Norway to supply gas to the country because there is no transportation infrastructure.

Mr Algimantas Cekuolis, a spokesman for the Lithuanian Government said: "People here are saying 'So we will have no fuel supplies. Well, we will ride bicycles and bring out the wooden stoves for cooking. Why not? Independence has to be paid for.'"

Ms Rukma, a journalist at Radio Vilnius, said: "Today is a very beautiful day here, there are fewer cars on the streets and people are discussing politics everywhere. I

can't say we're afraid, we've taken our decision (to become independent) and that's it."

Lithuanian leaders yesterday issued appeals to save energy and met to consider how to distribute remaining resources. Mr Ceslovas Jurseunas, a government spokesman, appealed on the radio for the "most thrifty" use of energy.

"Where we can give up the use of gas, petrol, any heating or lighting, let us do this and then we will be able to survive longer and maybe we will not be intimidated by these sanctions."

## WORLDWIDE WEATHER

	Y day	T day	Y day	T day	Y day	T day	Y day	T day
Algeria	12	14	Dallas	11	12	Medan	10	11
Amman	18	14	Doha	11	12	Moscow	17	13
Athens	19	16	Edinburgh	8	9	Mumbai	28	29
Bahran	28	22	Frankfurt	11	12	Manila	27	28
Bangkok	28	22	Geneva	11	12	Medan	10	11
Beijing	17	13	Hong Kong	11	12	Montevideo	17	13
Bombay	17	13	London	8	9	Moscow	17	13
Buenos Aires	12	14	Los Angeles	11	12	Mumbai	28	29
Calcutta	17	13	Madrid	11	12	Nairobi	17	13
Cairo	12	14	Manila	11	12	Rangoon	17	13
Cardiff	12	14	Medan	10	11	San Francisco	17	13
Chennai	17	13	Montevideo	17	13	Singapore	17	13
Copenhagen	12	14	Moscow	17	13	Sydney	17	13
Dhaka	17	13	Mumbai	28	29	Taipei	17	13
Dublin	12	14	Nairobi	17	13	Tokyo	17	13
Frankfurt	11	12	Rangoon	17	13	Valencia	17	13
Geneva	11	12	San Francisco	17	13	Warsaw	17	13
Hong Kong	11	12	Singapore	17	13	Washington	17	13
London	8	9	Sydney	17	13	Wellington	17	13
Los Angeles	11	12	Taipei	17	13	Zurich	17	13
Madrid	11	12	Tokyo	17	13			
Manila	11	12	Valencia	17	13			
Medan	10	11	Warsaw	17	13			
Montevideo	17	13	Washington	17	13			
Moscow	17	13	Wellington	17	13			
Mumbai	28	29	Zurich	17	13			
Nairobi	17	13						
Rangoon	17	13						
San Francisco	17	13						
Singapore	17	13						
Sydney	17	13						
Taipei	17	13						
Tokyo	17	13						
Valencia	17	13						
Warsaw	17	13						
Washington	17	13						
Wellington	17	13						
Zurich	17	13						

C - Cloudy, D - Drizzle, F - Fair, Fg - Fog, H - Hail, R - Rain, S - Snow, Sh - Show, T - Thunder, Tm - Thunderstorm, W - Wind, X - X-ray, Y - Yellow, Z - Zebra







## INTERNATIONAL COMPANIES AND FINANCE

## BNP net up 11% despite increase in bad debts

By George Graham in Paris

BANQUE Nationale de Paris (BNP), the largest French state-owned bank, has reported an 11 per cent increase in net profits to FF3.41bn (\$506.8m), despite a heavy increase in bad debt provisions.

The bank improved its operating profits to FF11.3bn, up 17 per cent from the previous year, with French activities advancing by 18 per cent to FF8.5bn, and foreign business up 13 per cent to FF2.8bn. BNP boosted its new bad debt provisions by 31 per cent to FF8.7bn, lifting its stock of provisions to FF44.6bn.

Mr Jacques-Henri Wahl, joint managing director in charge of international affairs, said that BNP had made FF2.4bn of new provisions on sovereign debts, but in addition had set aside FF924m for unpaid interest, following the suspension of debt service by, for example, Brazil, Argentina and the Ivory Coast.

BNP also provisioned another FF920m for risks in consortium banks in which it is a shareholder, essentially Banque Internationale pour l'Afrique Occidentale (BIAO), the stricken West African commercial bank.

Wahl said BNP had already provisioned FF600m on BIAO in 1988. Last year, it made another FF600m provision, and its results were also hit by BIAO's FF337m net loss. Cameroon, Senegal and the Ivory Coast, three of the worst affected subsidiaries, were, however, not consolidated, because BNP plans to shed them as soon as it has negotiated its withdrawal with the governments concerned.

The group also had to provision FF370m for losses incurred by its Swiss subsidiary in the financing of oil trading, and has injected FF200m of fresh capital into this subsidiary.

## Royal Trustco climbs by 20%

ROYAL Trustco, Canada's largest trust company, reported a 20 per cent gain in first-quarter net profits, mainly because of the acquisition of Pacific Trust Financial Corp in the US last year, writes Robert Gibbons in Montreal.

Earnings were C\$72m (US\$82m), or 40 cents a share, up from C\$60m, or 41 cents, on fewer shares outstanding a year earlier. The company issued 11m new shares to pay for the acquisition of the US trust.

## Bristol-Myers expands to \$409m

By Karen Zagor in New York

BRISTOL-Myers Squibb, the world's second biggest drugs company which was formed last year in a \$11.5bn merger, yesterday reported a 19 per cent increase in first-quarter net earnings to \$109.1m or 78 cents a share, from \$343.8m or 66 cents a year earlier.

The company, which took a series of hefty charges last year related to the merger, said sales in the latest quarter grew 9 per cent to \$3.46bn from \$2.26bn.

International sales grew more quickly than domestic

sales, in spite of being hit by an unfavourable dollar exchange rate. The company's overseas sales rose 13 per cent compared with a 6 per cent improvement in domestic sales.

Earnings before tax grew 16 per cent to \$54.6m from \$51.4m.

The results were in line with expectation on Wall Street, and shares in the company moved down 3/4 to \$63 1/2 in mid-session trading on the New York Stock Exchange.

The New York-based com-

pany also said it had agreed to sell its Genetic Systems business to a subsidiary of Sanofi of France for an undisclosed sum. Sanofi is part of the Elf Aquitaine group.

Genetic Systems is an *in vitro* diagnostics company which develops and markets tests for infectious diseases, its leading product, according to Bristol-Myers Squibb, is a highly accurate test to screen AIDS antibodies. It was founded in 1980 and had sales last year of about \$10m.

● Schering Plough, another

pharmaceuticals company, has also reported strong first-quarter earnings. Net income advanced 20 per cent to \$150.4m or \$1.33 a share although sales grew more slowly, by 4 per cent to \$665.1m.

Excluding divestitures in 1989 and the impact of fluctuating foreign exchange rates, sales advanced 8 per cent in the latest quarter.

The company attributed the improvement to the strength of its worldwide pharmaceutical businesses.

## Strong sales in Europe lift Apple by 134%

By Louise Kehoe

APPLE COMPUTER reported a dramatic leap in earnings for its second fiscal quarter, boosted by strong European sales and lower component costs.

Ending a quarter clouded by senior management changes and cost-cutting measures, including over 400 layoffs at its California headquarters, Apple surprised analysts with its strong financial performance.

The personal computer manufacturer reported a 134 per cent rise in second-quarter earnings. Net income for the quarter was \$131.8m, compared with \$36.4m in the same period last year. Earnings per share rose to \$1.04 from 44 cents per share, far outstripping expectations.

Revenues rose by 8 per cent for the quarter from \$1.25bn to \$1.35bn, lifted by international sales which increased 27 per cent to \$633m. US sales, however, dropped 6 per cent to \$713.5m, the company said.

"We are experiencing marked improvements in our gross margins as a result of lower component costs and strong sales of the computers we introduced a year ago," said Mr John Sculley, Apple chairman and chief executive.

"During the quarter, the percentage of revenues coming from outside the US reached an all-time high," he said. "As we enter the second half of fiscal 1990, we are optimistic regarding the level of international demand, while we remain cautious regarding growth in the US."

For the first half of fiscal 1990, net income was \$256.7m, or \$2 per share, up from \$196.8m or \$1.54 on revenues of \$2.84bn, up 7 per cent from \$2.65bn in the same period a year ago.

## Overseas demand bolsters 3M

By Roderick Oram

MINNESOTA Mining and Manufacturing, the diversified US group, reported marginally improved first-quarter profits with strong foreign demand for its wide range of industrial products offsetting flat demand in the US.

Net profits rose 0.3 per cent to \$355m, or \$1.51 a share, from \$318m, or \$1.43 a year earlier on revenues up 4.9 per cent to \$3.16bn from \$3.02bn.

The results were slightly weaker than Wall Street had expected. International unit volume rose by 12 per cent from a year earlier, the ninth consecutive quarter of double-digit growth of foreign sales, which accounted for 49 per cent of the group total in the quarter.

In contrast, domestic unit volume grew only 1 per cent last year, a corresponding slowdown in the US economy. The sluggishness was most evident in 3M's industrial and electronic sector, covering automotive, housing and other general markets.

Several US businesses bucked the trend to post sluggish growth. They included telecommunications, imaging, memory and medical products. US operations also benefited from continued productivity gains.

"We expect another year of higher sales and earnings," said Mr Allen Jacobson, chairman.

● 3M said recent economic events in Brazil, including the imposition of monetary controls, could reduce growth in second-quarter earnings by about 10 cents a share, Reuters reports.

The company said the events in Brazil were expected to have a relatively small effect on results, with most of the negative impact on the business being felt in the second quarter.

## Leading US defence contractors surge in opening quarter

By Roderick Oram

GENERAL Dynamics and Northrop, two leading US defence contractors, have reported higher first-quarter earnings, with special gains influencing the results as profits on military work remain under pressure.

General Dynamics turned in net earnings of \$123.7m or \$2.97 a share, against \$75.4m or \$1.81 a year earlier. Revenues were marginally higher at \$2.49bn, compared with \$2.36bn.

The latest profit included, though, a gain of \$61.5m or \$1.48 from the settlement of a suit brought against American Telephone & Telegraph and Bell relating to a telecommunications subsidiary General Dynamics sold in 1982.

Operating profits from government aerospace contracts fell to \$88.1m from \$106.1m on flat sales of \$1.48bn against \$1.46bn. Profits from submarines and land systems were also down, reflecting mainly lower profit margins on Trident submarines.

General aviation was the one

bright spot, reporting operating profits of \$16.5m on sales of \$157.5m, against \$4.3m or \$11.5m. The increase came mainly from an enthusiastic market response to the company's Cessna Citation V executive jet. Sixteen were delivered in the first quarter, almost half the total for all of last year.

Earnings were also hurt by a 38 per cent jump in interest expense to \$19.4m, resulting from higher borrowings needed for accelerated tax payments required by accounting changes.

Northrop saw the first-quarter net jump to \$86m or \$2.04 a share, from \$2.7m or 21 cents a year earlier on revenues which were flat at \$1.28bn. The order backlog was 24 per cent higher at \$5.7bn.

But the result included a \$67.1m gain from the sale of Northrop's headquarters complex. Net before the gain was \$28.9m, however, with the result affected by factors such as a \$10.7m pension fund contribution to operating income against a debit of \$3.2m a year earlier.

## Restructuring boosts American General

By Roderick Oram

AMERICAN General, the US insurer fighting off a proxy challenge from rival Torchmark, has reported higher first-quarter profits.

The improved earnings were "the hard-won rewards of a very complex and difficult restructuring programme," Mr Harold Hook, chairman, said.

Net profits for period rose to \$107.1m or 90 cents a share, from \$97.2m or 77 cents a year earlier. Revenues grew to \$1.04bn from \$1.01bn. Assets increased 6 per cent to \$32.6bn.

Operating earnings from American General's three business segments increased only marginally, however, to \$120.1m from \$126.5m. The improvement in net income came largely from other factors, such as a reduction in

interest expense to \$28m from \$69.5m.

Torchmark continues to press for the election of its five nominees for the six seats of the 15-strong board to be decided at American General's May 2 annual meeting. It is also seeking shareholder support for resolution calling on the board to consider takeover offers.

Torchmark withdrew a \$6.4m offer for American General last month but said it would revive the bid if shareholders backed its proxy initiative.

Despite continuing skirmishing in the courts between the two parties, there are currently no plans on Torchmark soliciting proxies or making its nominations.

## Higher fuel costs push AMR into \$19m deficit

By Martin Dickson in New York

AMR, the parent company of American Airlines, the largest US carrier, reported a net loss of \$19.3m in the first quarter, laying the blame mainly on higher fuel costs.

The loss, on revenues up 9.7 per cent to \$2.7bn, compared with net income of \$10m in last year's corresponding period.

Mr Robert Crandall, chairman, said the results "can only be called unsatisfactory."

The loss per share was 31 cents against earnings of \$1.60 a year ago.

Mr Crandall noted that while the first quarter was always

weak, this was the first loss AMR had reported in the past nine quarters.

While the higher cost of fuel was a prime reason for the decline, the company said labour costs and other expenses also rose. This meant that while unit costs climbed 8.7 per cent, unit revenues were flat because the company could not raise prices.

Operating expenses were up 17.5 per cent to \$2.7bn while the yield - the average amount of revenue earned per passenger mile - was 12.73 cents, the same as in 1989.

## Californian market helps BankAmerica

By Roderick Oram in New York

BANKAMERICA, the second largest US bank holding company in terms of assets, yesterday reported higher first-quarter profits, marking a continuation of its recovery from its travails of the mid-1980s.

Net income for the three months ended March totalled \$78m, or \$1.33 a share, a better result than many analysts had forecast.

The year earlier net of \$75m, or \$1.38 on 13 per cent fewer shares, had included interest payments from Brazil

which boosted net by \$38m. No payments were received in the latest quarter.

"The strength and diversity of the California economy has helped to insulate us from some of the financial stresses in certain US markets," Mr Tom Clausen, chairman, said.

Total domestic loans grew by 18 per cent to \$60.03bn from \$50.91bn. Foreign commercial and industrial loans grew 5 per cent to \$10.96bn, while foreign government loans fell 5 per cent to \$3.55bn.

The group added \$185m to

loan loss reserves in the quarter, making a total of \$3.42bn, or 4.36 per cent of loans outstanding. A year earlier it added \$110m for a total of \$3.62bn, or 5.26 per cent.

Most of the provision related to credit losses from the sale or swaps of assets of countries restructuring their debts.

Net interest income on a taxable-equivalent basis increased only marginally to \$933m from \$927m. Excluding the 1989 Brazil payment, interest income rose \$52m. The net interest margin slipped to 4.33

percentage points from 4.60 points. Excluding Brazil, the margin was down only 5 basis points.

Non-interest income rose \$85m to \$521m, due mainly to growth in fees and commissions.

Total assets rose to \$101.1bn at quarter-end from \$96.8m a year earlier. Shareholder equity equalled 5.09 per cent of assets, up from 4.96 per cent a year earlier. The average rate of return on earning assets was 1.23 per cent, against 1.29 per cent a year earlier.

## Recovery at Reebok continues

By Alice Rawsthorn

REEBOK, the US sportswear company, continued its recovery by increasing pre-tax income to \$88.01m from \$88.93m in the first quarter thanks to the success of its new basketball shoe and the growth of overseas markets.

The group lifted earnings per share to 46 cents from 43 cents. Mr Paul Fireman, chairman, said sales and income had reached record levels.

Reebok, which is 32 per cent owned by Pentland Industries of the UK, has been battling against Nike, another US company, for dominance of the

intensely competitive international sports shoe market.

The success of the Pump, a basketball shoe with an inflatable lining, has helped it to gain ground in the US. The shoe, which sells for \$179, was introduced last autumn and Reebok has since increased production.

Most of Reebok's growth in the quarter came from overseas markets. Group turnover rose by 13 per cent to \$554.4m from \$488.4m, but sales outside the US more than doubled to \$118m, against \$57m.

## Charge slows Digital Equipment

By Louise Kehoe in San Francisco

DIGITAL Equipment, which had earlier indicated it faced the possibility of its first-ever quarterly loss, yesterday surprised investors with higher than expected operating earnings for its third fiscal quarter.

However, the big US computer manufacturer took a \$160m charge against earnings to cover the costs of a planned reduction in its workforce, sharply lowering its net earnings.

Income for the quarter was \$174.9m before the restructur-

ing charge. Net income after the charge was \$24.9m or 20 cents per share, compared with \$256.4m or \$2.05 a year ago.

The company reported total revenues of \$2.38bn, up 4 per cent from the \$3.13bn for the comparable period a year ago.

Mr James M. Osterhoff, vice president, finance, said the \$160m charge "reflects costs for employee separations and retraining for cost savings and being investigated, and there may be additional restructur-

ing charges in the future."

Digital said it had offered voluntary severance packages to 1,940 of 2,300 employees at its Puerto Rico plant and hoped to reduce employment there by 350 people. It had previously offered the severance package to 2,000 US employees and 700 had accepted.

For the nine-month period net income was \$331.1m compared with \$758.4m, and earnings per share were \$2.55 against \$5.94. Revenues were \$5.58bn from \$5.25bn.

## Advance at Ciments Francais

By George Graham

CIMENTES Francais, the French cement and building materials group, made net profits of FF1bn (\$178m) last year, up 37 per cent from 1988, on sales that rose by the same amount to FF12.5bn.

Mr Pierre Conso, chairman, said the inclusion of newly acquired companies in Turkey, Spain and the US should boost sales to between FF15bn and FF18bn in 1990, with net profits of between FF1bn and FF1.2bn.

The group, which ranks second in the French cement

industry behind Lafarge Coppee, has been expanding rapidly over the last year with a series of acquisitions. It announced yesterday the purchase of US Cement, a producer in the Pittsburgh region.

The \$105m purchase last year of five cement works from the Turkish Government has been hampered by legal difficulties over the sale, but was reinforced recently by a sixth works bought from a private-sector company.

In Spain Ciments Francais

has taken 65 per cent of Financiera y Miniera, the construction materials group, for a total investment of FF2.4bn. While in Greece the group hopes to complete the acquisition of the Halyps cement works next month.

In Morocco the group has taken control of Ciments d'Agadir, and plans not only to increase its capacity to 750,000 tonnes a year to more than 1m tonnes but also to build a second works at Safi, further north on the Moroccan coast.

## Simmons turns to court over Lockheed fight

MR Harold Simmons, the Dallas investor, has filed a suit in federal court to overturn results of last month's proxy fight in which he lost his bid to gain control of Lockheed, the US aerospace group, Reuters reports.

The suit, filed on behalf of NL Industries of which Mr Simmons is chairman, alleges Lockheed's board illegally engineered extra proxy votes through its employee stock ownership plan to win the fight.

Mr Simmons said in the suit: "This action seeks to restore integrity to the recent election of Lockheed's board of directors and to ensure integrity in future elections."

In a recent filing with the SEC Mr Simmons said he might file the suit and that he was seeking representation on the board proportionate to his shareholdings. He owns about 15 per cent of Lockheed.

Lockheed's annual meeting reconvened on Monday at which time Mr Daniel Tellep, chairman, said the incumbent board had been re-elected and had received between 57.6 and 60.7 per cent of the vote. Nominees of NL Industries had received 35.9 per cent.

## Bowater Inc held back by newsprint business

By Maggie Urry

BOWATER INC, the US pulp and paper group, suffered a 42.9 per cent fall in net income in the first quarter, mainly because of sharply lower profits from its newsprint business.

Group net income declined to \$22.5m from \$38.9m a year earlier on sales 5.7 per cent lower at \$338.3m. Earnings per share fell to 59 cents from \$1.04, a drop of 43.3 per cent.

Operating income from Bowater's newsprint division plummeted by 89.7 per cent to \$3m from \$29.3m.

Other North American newsprint makers are also seeing

tough trading conditions, with price discounting widespread in the industry. Newsprint profits had come under pressure last year after reaching a record low in 1988. However, Bowater is hoping to push through a price increase for newsprint from June 1.

Three other divisions also saw falls in operating income. Profits from coated paper fell 13.7 per cent to \$31.1m, pulp by 18.1 per cent to \$17.6m, and timber operations by 36.4 per cent to \$21m. Only computer papers raised operating income, by 82.5 per cent to \$5m.

## Georgia-Pacific suffers setback

GEORGIA-PACIFIC, which took over Great Northern Nekosia last month to create the biggest US paper group, announced a 34 per cent drop in first-quarter net income, writes Martin Dickson.

It blamed the decline on lower paper and pulp prices and a strike at one of its plants.

Net income was \$101m on sales of \$2.7bn, against income of \$154m on sales of \$2.4bn in

the same period of last year. The results included a 23-day contribution from Great Northern Nekosia, while the debt involved in the acquisition produced a jump in interest expenses from \$66m to \$77m.

Earnings per share were \$1.18, against \$1.65 a year earlier. The building products business saw operating profits rise from \$90m to \$115m, but pulp and paper slipped from \$247m to \$182m.

## High-flying Conner Peripherals sues rival

By Louise Kehoe

CONNER Peripherals, one of the fastest growing companies in the computer industry, may be forced to slow its growth rate because of a shortage of essential components for its computer disk drive products.

Late on Wednesday Conner confirmed it had filed a suit against rival Seagate Technology, charging that Seagate shut off its primary supply of a critical component when it acquired the component manufacturer last October.

Four-year-old Conner has been widely expected to claim the record as the fastest growing manufacturing company in US history if, as several analysts have forecast, its 1990 sales top \$1bn.

Conner reported first-quarter sales of \$235.1m this week, up 60 per cent on the same

quarter last year, while profits jumped 173 per cent to \$15.4m or 33 cents per share.

Conner, a Wall Street favourite, went public in April 1988 with a share price of \$3. On Wednesday the stock traded at a record high of \$20 1/2, closing at \$20 before news of the legal action.

The component shortage has forced Conner to place some of its newest products on allocation. Mr Bill Schroeder, vice chairman, said: "This will have an impact on our customers and on our ability to capture incremental (business) opportunities."

He emphasised, however, that Conner did not expect its financial performance to be "below market expectations," and pointed out that the com-

pany had not advised analysts to revise their earnings estimates.

The company's largest customer is Compaq Computer, which owns more than 30 per cent of Conner's stock. Conner is also a leading supplier of disk drives to Japanese manufacturers of laptop personal computers.

Conner alleges in its suit that after Seagate acquired Imprimis Technology, a disk drive subsidiary of Control Data, last October it refused to honour an Imprimis contract to supply Conner with "thin film heads," essential components of computer disk drives.

Seagate and Conner are bitter rivals in the market for personal computer disk drives. Mr Finnis Conner, who founded Conner Peripherals in 1986,

was also a founder of Seagate in 1973.

Mr Schroeder said Conner had tried but failed to resolve the supply contract issue through discussions. Its suit, which seeks unspecified damages, alleges unfair competition, breach of contract, fraud and interference with contractual relationship.

Conner is attempting to find new sources of thin film heads and is redesigning some products to use an alternative type of head component. "We expect the allocation problem to be resolved in the third quarter of 1990," Mr Schroeder said.

The component supply problem will not have any impact on Conner's recently announced plans to establish a manufacturing operation in Scotland.

## THE DREYFUS INTERCONTINENTAL INVESTMENT FUND N.V.

## NOTICE OF ANNUAL GENERAL MEETING

NOTICE IS HEREBY GIVEN that the Annual General Meeting of The Dreyfus Intercontinental Investment Fund N.V. ("the Fund") has been called by the Managing Directors of the Fund, De Ryckdijk 82, Willemstad, Curaçao, Netherlands Antilles on May 10, 1990 at 11.00 o'clock in the forenoon. Stockholders of record at the close of business on Tuesday, March 20, 1990 will be entitled to receive notice of and to vote at the meeting.

## AGENDA

1. Consideration of the declaration of a dividend of \$0.02 per share to Stockholders of record on May 25, 1990.
2. Approval of Financial Statements for the fiscal year ended August 31, 1989.
3. The transaction of such other business as may properly come before the meeting, or any adjournment or adjournments thereof.

The foregoing items may be approved by a majority of the shares cast on each item. The Annual Report of the Fund containing the Financial Statements for the fiscal year ended August 31, 1989 has already been mailed to Stockholders, and copies may be obtained upon request from the principal office of The Dreyfus Intercontinental Investment Fund N.V., Post Office Box N7712, Nassau, Bahamas. The Fund will take the office of the Paying Agents listed below without cost to the Stockholder.

Holders of bearer shares will be admitted to the meeting upon presentation of their Certificates or presentation of a voucher which may be obtained from any of the Paying Agents.

Holders of bearer shares may vote by proxy by mailing a form of proxy and a voucher obtained from one of the Paying Agents to Mr. Neville Pearson, The Dreyfus Intercontinental Investment Fund N.V., c/o NatWest International Trust Corporation (Bahamas) Limited, Mutual Funds Department, P.O. Box N7785, Nassau, N.P., Bahamas Islands. The form of proxy and voucher must be received by Mr. Pearson by May 9, 1990 to be voted at the meeting.

The Custodians of the Fund are The Bank of New York, 90 Washington Street, New York, New York, U.S.A. and NatWest International Trust Corporation (Bahamas) Limited. All inquiries should be directed to NatWest International Trust Corporation (Bahamas) Limited, Mutual Funds Department, P.O. Box N7785, Nassau, N.P., Bahamas Islands. Inquiries may also be directed to Dreyfus GmbH, Maximilianstrasse 24, D-8000, Munich 22, West Germany. Tel. 089/220702. Telex 5/29392. Telefax 089/2285649.

Bowling Green Company Limited  
Managing Director

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INVESTMENT FUND N.V.

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## INTERNATIONAL COMPANIES AND FINANCE

## Jacobs 'disappointed' by Brach loss

By Barbara Durr in Chicago

MR KLAUS JACOBS, chairman of Jacobs Suchard, said yesterday that he took personal responsibility for the losses at E.J. Brach, the US confectionery subsidiary, whose \$50m loss last year was the principal factor in the 10.4 per cent fall in the Swiss group's 1989 consolidated net profit.

Mr Jacobs called the experience with Brach "one of my biggest disappointments" but Suchard says it is already beginning to stem the losses at Brach, for which the Swiss

confectionery and coffee group paid \$730m in 1987. Suchard's group net earnings would return to the usual growth rate - 10 per cent a year on average - in 1990 after the drop to \$275m last year. Mr Jacobs said in Zurich. It was the first time that the Swiss chocolate and coffee group had failed to post a profit increase since its creation by merger in 1982.

Brach's competitors, such as M&M/Mars and Hershey Foods, say managerial mistakes were its main problem. It sacked top

management and reduced its product lines, prompting retailers to decrease shelf space for its products.

The Swiss group's annual report released yesterday lends credence to this argument. It attributed Brach's sales decline to too rigorous shimming of the product range. Introduction of sales methods used successfully in Europe had not taken into account the peculiarities of the US market.

Changes introduced - the marketing re-organisation, rationalisation of production

units and installation of new computer systems - had outstripped the capacities of the management and led to internal conflicts, the report stated.

Mr Ronald Habjanac, Suchard USA's second president in little over a year, was replaced last week. Mr Robert Jauch, a senior member of the group executive board in Zurich responsible for America, Asia and the Pacific, has taken personal control.

Brach's operating loss followed a 14 per cent decline in sales; in 1986 it earned a pre-tax profit of \$75.6m. But results for the first quarter showed a \$10m improvement in Brach's operational earnings. Mr Jacobs said.

Meanwhile, a separate row has developed in the US over Suchard's attempt to win special Export Trade Zone status for Brach. Competitors charge the Swiss-owned group with trying to gain an unfair competitive advantage.

Jacobs Suchard USA has asked for FTZ status, in order to buy sugar at the lower world price instead of at the US support price. It estimates that this would save \$20m a year on its annual 100,000 tons of sugar purchases.

Jacobs Suchard says it is trying to preserve more than 3,400 jobs in Chicago's run-down west side. A ruling is due in the next few weeks.

## Moller rises in spite of tough liner competition

By Hilary Barnes in Copenhagen

A.P. MOLLER, the Danish shipping and oil and gas concern, increased pre-tax profits from DKK1.33bn (\$206.6m) to DKK2.11bn and net profits from DKK1.02bn to DKK1.62bn last year.

An increase from 33 to 38 per cent in the dividend to a total of DKK139m was proposed.

Pre-tax profits in the tanker and liner shipping partnership were up from DKK801m to DKK1.23bn, but this included DKK347m from the sale of ships, while in 1988 the proceeds from ship sales were booked in the balance sheet, which leaves the operating profit more or less unchanged.

Moller referred to tough competition in liner shipping, which had prevented significant increases in rates despite high capacity utilisation and gains in market shares for the group.

Profits in the oil and gas partnership were up from DKK565m to DKK892m after financial items and depreciation, and from DKK51m to DKK97m after tax.

The turnover figures for the associated companies were published for the first time, revealing turnover in the shipping partnership of DKK17.94bn last year and in the oil and gas partnership DKK2.6bn.

## BASF plans bonus pay-out

BASF will raise its regular 1989 dividend by 8 per cent to DM13 (\$7.78) per share from DM12, and will pay an additional bonus of DM1 to celebrate its 125th anniversary, it said yesterday, reports AP-DI.

The dividend announcement by the West German chemical group had been expected by analysts after BASF last month reported an 18 per cent jump in 1989 group pre-tax earnings to a record DM4.38bn from DM3.73bn in 1988.

Yesterday BASF said group net income surged 42 per cent to DM2bn in 1989 from DM1.4bn a year earlier.

## Administrators seek maximum Atlantic assets

By David Owen, Robert Rice and Terry Dodsworth in London

THE ADMINISTRATORS put into Atlantic Computers, British & Commonwealth Holdings' troubled computer leasing subsidiary, have been given the task of realising as much as possible from Atlantic's assets.

Price Waterhouse confirmed yesterday that it had been appointed under the 1986 Insolvency Act for the sole purpose of achieving a more advantageous realisation of Atlantic's assets than would be effected on a winding up.

The act provides for other purposes, including achieving the survival of the company as a going concern - but these have not been used in this case.

The administrators say they are "reviewing the financial position of all operating subsidiaries" and have received "approaches from potential buyers interested in various parts of the operations." Yesterday, 180 UK redundancies were announced.

Meanwhile, further disagreement emerged as to precisely when the full extent of Atlantic's difficulties became apparent, following a statement by

Mr David McCormick, the chief executive of the leasing group whom B&C says was suspended on March 28.

"The full magnitude of Atlantic's problems was reported to certain board members of B&C more than a year ago following a review of the potential liabilities which I instigated," according to Mr McCormick's statement.

B&C continues to maintain that the "full enormity" of Atlantic's position only came to light in the past two weeks.

The bulk of yesterday's redundancies came at Atlantic Computer Systems, the principal leasing subsidiary. Staff reductions were necessary said the administrators because ACS "does not have credit lines available to fund purchases of equipment."

Singer & Friedlander, the merchant bank, is interested in buying in the 10.4 per cent of its shares held by B&C "at the right price." The bank said that it has been talking actively with B&C over the past six months. Singer & Friedlander's shares rose 1p to 61p yesterday, valuing B&C's stake at more than £14m.

## Bongrain climbs 13.5% and predicts further rise

By William Dawkins in Paris

BONGRAIN, the dairy, pork products and restaurant group which is France's largest specialist cheese producer, yesterday unveiled a 13.5 per cent rise in net annual profits on a 29 per cent increase in sales.

The group, built up by Mr Jean-Noël Bongrain over the past 40 years from the small dairy owned by his family, and which now numbers Caprice des Dieux and St-Moret among its top cheese brands, is predicting another rise in profits and sales for the current year.

Turnover rose to FF8.48bn (\$1.5bn) from FF6.68bn last year, although the underlying rate of year-on-year growth fell from 39 per cent to 8.8 per cent,

adjusting for exchange rate changes and the impact of eight cheese and dairy acquisitions in Europe, the US and Brazil.

Net profits rose from FF744.1m to FF790.6m. About 45 per cent of sales came from France, with 25 per cent in the rest of Europe, 28 per cent in the US and the balance in Australia and Brazil.

The takeovers added about FF2bn to a full year's sales. They included Altadena, a FF800m turnover US dairy group, which contributed a loss. Alurouca a leading Brazilian cheese maker; and Millway Foods, a British producer of Stilton cheese.

## Fiat Auto forecasts promising earnings

By Haig Simonian in Turin

EARNINGS for 1989 at Fiat Auto, the automobile producer which accounts for about half the turnover of Italy's Fiat group, will be "quite encouraging," Mr Luigi Francione, the joint general manager of Fiat Auto, said.

Profits will be "at least in line with results of the previous year, and perhaps a little better," he added. Prospects for the current year already appear promising based on first-quarter figures, with output running at full capacity.

Boosted by the introduction of the new Tempra medium-sized saloon, which sold about 20,000 units between its introduction in late February and the end of March, Fiat sales in Italy rose 5 per cent in the first three months of this year.

Fiat appears poised to raise its current 18 per cent stake in ZCZ, the Yugoslavian car manufacturer which sells under the Yugo marque.

Although cautious about the possibility of taking a majority stake, Mr Paolo Cantarella, joint general manager of Fiat Auto, admitted: "Further developments and co-operation with ZCZ are being analysed" although a decision depended on many factors.

Among the possibilities are that Fiat will raise its ZCZ stake to 50 per cent, but not necessarily take an absolute majority, analysts suggest. But, the two manufacturers are already tightening their links, with an increasingly badged version of Yugo's Koral saloon going on sale in Italy next month.

## UPM merger plans deferred

FINLAND'S United Paper Mills (UPM) said plans to merge the company with Rauma-Repola, the Finnish forest products and engineering group, had been deferred, writes Our Financial Staff.

UPM said a merger motion at a UPM shareholders' meeting was withdrawn after 30 shareholders representing 13.4m of its 31m shares became unhappy with the deal.

## Sweet and sour taste of results

JACOBS SUCHARD'S results for 1989 offered shareholders a sweet and sour meal, Mr Johann Widmer, financial director, said yesterday, writes William Duffell.

They could take comfort from the geographical expansion, introduction of new products and modernising of the production apparatus in Europe and from the exploitation of new markets in the Far East and Eastern Europe.

But spending on these strategies together with the operational problems in E.J. Brach, the US subsidiary, had produced a decline, which had been expressed in the unsatisfactory performance of Jacobs Suchard's share prices.

Nevertheless, the more advantageous cost structures and improved market positions brought about by the investments would have an increasingly favourable effect on both sales volume and financial results, Mr Widmer said.

Jacobs Suchard plans to maintain its dividend at SF2.15 (\$1.44) per bearer share and SF2.43 per registered share, incorporating the 10 per cent bonus paid last year.

The 4.5 per cent increase to SF6.7bn (\$4.47bn) in group turnover was due mainly to a 12.9 per cent climb in chocolate sales to SF2.7bn. Coffee, the other main business, managed only a 1 per cent increase in sales.

Confectionery fell back by 14 per cent and the Van Houten division, which specialises in trading, financing and processing, increased its turnover by 6.3 per cent to SF735m. Geographically, the European Community countries still accounted for 75 per cent of turnover; the new operations in the Far East are still very small. Total assets rose by 5.8 per cent to SF14.5bn, with shareholders' equity increasing by 6.3 per cent to SF12.1bn.

## Escamez angered by sugar sell-off

By Peter Bruce in Madrid

MR ALFONSO Escamez, the pugnacious chairman of Banco Central, one of Spain's large commercial banks, yesterday publicly expressed his irritation over the sale by a rival bank, Banesto, of its 11 per cent stake in Azucarera Espanola, Spain's third largest sugar refiner.

Banesto sold its stake in Azucarera to ED&F Man, one of the world's largest sugar brokers, earlier this week for around Ptas4.4bn (\$41.6m), having decided to retire from the sector and concentrate on other industries.

Man, which also owns about 10 per cent of the Spanish tobacco trader, Tabacos de Filipina, said on Wednesday that it had bought the sugar stake for "strategic" reasons.

"We will fight for control of Azucarera Espanola," Mr Escamez told a Spanish newspaper yesterday. Although Banco Central officials said they had not expected to buy the Banesto stake because it was too expensive, the newspaper quoted Mr Escamez saying "we were surprised by the sale as we had clearly committed ourselves to the sector and the company."

Mr Escamez's displeasure is easy to understand. The Spanish sugar industry, protected like most of the European Community counterparts by a strict production quota regime, is undergoing profound changes in ownership in which it has been assumed until now that Banco Central would play a large role. Central already has

about 13 per cent of Azucarera and wants to increase that.

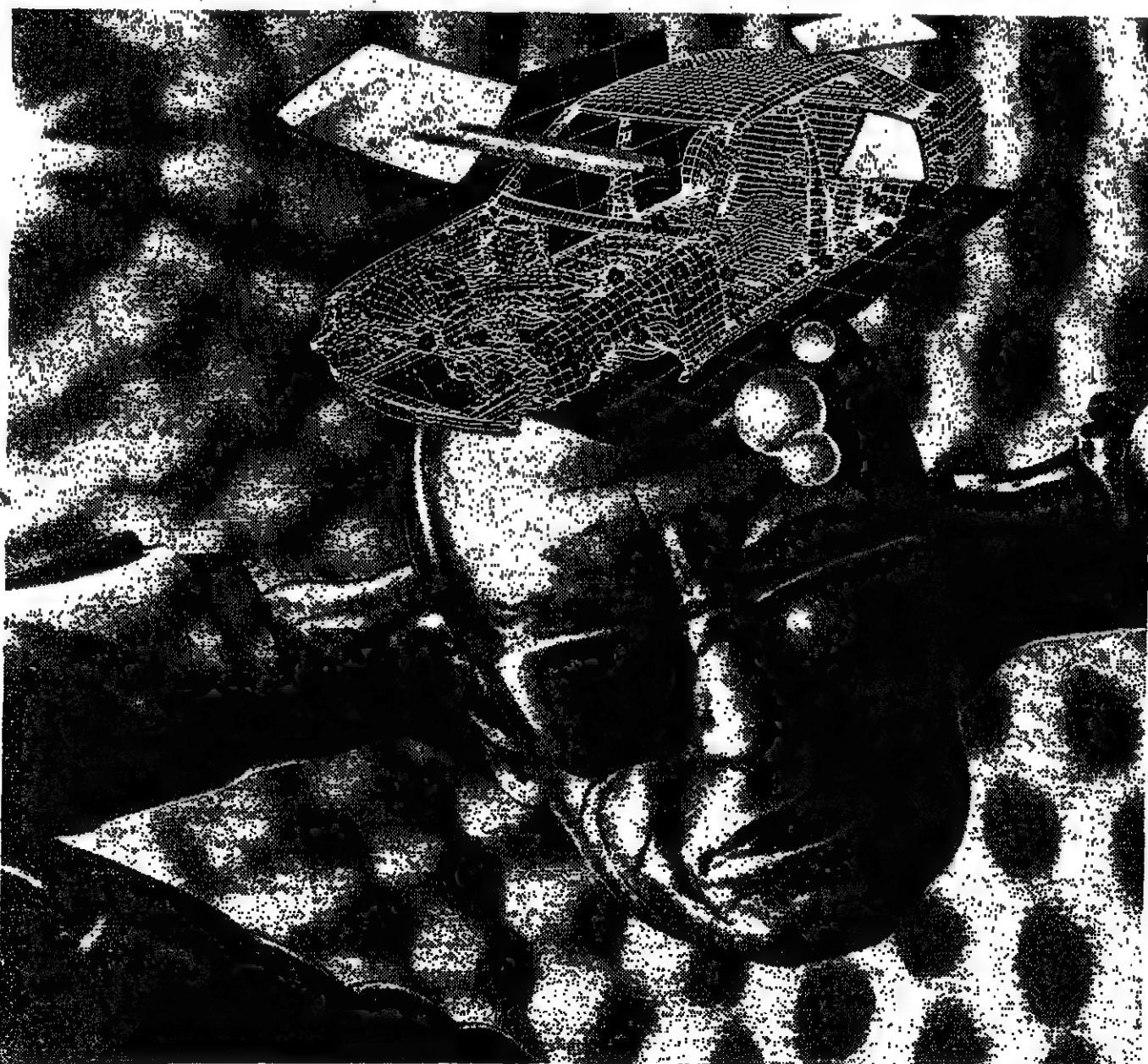
Sugar is a comfortable, profitable business in Spain. The three companies that dominate the Spanish industry, Ebro, Industrias Agricolas and Azucarera, with sales between them last year of more than Ptas1.5bn, have at least until 1995 to streamline their productive and marketing processes.

The EC quota regime allows Spain to produce slightly more sugar, in tonnes a year, than it consumes and intervention prices guaranteed by the Community for Spanish sugar are higher than the EC average. But, with an eye on the eventual liberalisation of the market, Ebro, now ultimately controlled by the Kuwaiti

Investment Office (KIO) has initiated a merger with Industrias Agricolas. The process is quite advanced and Banco Santander, banker to the Kuwaitis in Spain, has been trading sugar stocks heavily since late last year in order to ensure a clean, trouble-free merger for its clients.

The Ebro-Azucarera merger would leave Azucarera at a considerable competitive disadvantage in a liberalised market.

The Spanish refiners traditionally hold abundant hidden assets, mainly in land, and Azucarera is no exception. With one foot already in a comfortable, protected industry, Mr Escamez is unlikely to be put off sugar by Banesto's stake going to London.



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## CREDIT LYONNAIS GROUP IN 1989: NET PROFITS: +60%



The Board of Directors of Credit Lyonnais, led by its Chairman, Jean-Yves HABERER, presented the financial statements for 1989 at its meeting on 12 April 1990. Three important acquisitions were consolidated in 1989: Credito Bergamasco and Credit Lyonnais Belgium (all 1 July 1989) and Woodchester (at year-end 1989).

## Substantial growth in assets and group activity

The Group's growth strategy and the vitality of its business activity are reflected in the increase in consolidated assets which totaled FRF 1,220 billion at year-end 1989, up 12.5% from 1988.

The lending activity continued to expand: outstanding gross loans to customers totaled FRF 675 billion, up 13.8%.

Leasing activity was particularly dynamic: equipment leasing increased 44.4% and real estate leasing rose 27.9% from 1988. Medium- and long-term commercial loans continued to grow (up 11.9%), as did housing loans (up 12.6%). Credit Lyonnais consolidated as first place in financing for construction with real estate loan production of FRF 22 billion, up 27% from 1988.

Customer deposits, including negotiable CDs, advanced 12.8% to FRF 454 billion at 31 December 1989.

On the asset side of the balance sheet, the proportion of operations denominated in foreign currencies (52%) was slightly greater than that of operations denominated in French francs (48%).

Capital market activity was very strong. Credit Lyonnais reaffirmed its leadership position in France for the management of bond issues. It ranked first (ex aequo) in the Eurobond market, second in the ECU market, and fourth in Europe in the Eurobond market (all currencies). Credit Lyonnais led seven listings on the Paris Bourse and co-led nine others. The Group managed assets totaling FRF 262 billion (up 21%).

Financial engineering operations continued to expand, particularly with the financing of 59 airplanes and high-speed train sets in France (12 for the TGV Atlantique) and in Spain.

Investment banking in 1989 reflected the increase in merger and acquisition and LMBG activity in France and abroad (99 operations), up from 46 in 1988. Equity investments also advanced: following the 266 investments made in 1989 the portfolio of industrial, commercial, and real estate shareholdings (excluding subsidiaries) is estimated at FRF 18 billion (up 38%).

## Earnings up sharply

For the Credit Lyonnais Group as a whole, banking and other income totaled FRF 33,584 million, up 11.3%. Operating expenses and depreciation totaled FRF 23,734 million, up 8.1% from 1988 (only 5.7% on a consistent basis of scope of consolidation).

Operating income before provisions totaled FRF 9,850 million compared with FRF 8,225 million in 1988, representing an increase of 20%.

Nonrecurring income totaled FRF 227 million in 1989, taking into account the impact in 1989 of fiscal integration of previous years. Nonrecurring income was 56 times greater in 1988 (FRF 1,398 million) and was set aside entirely to boost provisions.

Despite the fact that such a large appropriation of that nature was not made in 1989, the net appropriation to operating provisions did in fact total

FRF 6,280 million, practically the same very high level achieved in 1988 (FRF 6,558 million). Of that amount, FRF 3,482 million was devoted to country-risk coverage, raising coverage to an average of 86% of exposure in 89 heavily indebted countries.

Consolidated net profit of the Credit Lyonnais Group totaled FRF 3,447 million in 1989 compared with FRF 2,158 million in 1988, representing an increase of 60%. Excluding minority interests, the Group's share totaled FRF 3,130 million, up 52%.

French and foreign branches and subsidiaries contributed almost equally to the FRF 1,289 million increase in consolidated net profit. In France, the branch network, leasing affiliates, and Epargne Collective (a mutual fund management company) were responsible for that growth, as were Union des Assurances Federales group, Eligos, and stock brokerage firm Cholet-Dupont.

Outside France, significant increases were achieved by big subsidiaries, branches, and leasing companies. London-based Credit Lyonnais Capital Markets substantially narrowed its negative contribution to earnings (to FRF 217 million in 1989 from FRF 693 million in 1988), thanks to vigorous restructuring efforts. Recently acquired subsidiaries also made a significant positive contribution.

## Strengthening of equity capital

Following an appropriation of FRF 2,706 million to reserves, and taking into account the new share offering subscribed by Caisse des Depôts et Consignations, equity capital totaled FRF 27,170 million, compared with FRF 22,013 million in 1988, representing a 23.4% increase. Equity capital and equity-capital equivalent totaled FRF 38,758 million, (up 14.7%). With the consolidation of Alus France in February 1990, equity capital and equity-capital equivalent now exceeds FRF 50 billion.

Estimated net asset value of the Group (excluding the value of the different businesses of the Group, totaled FRF 39.9 billion, up 32% from 1988. Deduction of minority interests in subsidiaries leaves an estimated net asset value of FRF 37 billion, (up 27.4%). It represented FRF 1,330 per share at 31 December 1989, compared with FRF 1,113 a year earlier (up 19.5%).

## Dividend up 21%

Parent company earnings have steadily become less significant due to the fact that most new specialized activities or strategic advances are focused on ad hoc subsidiaries. Nevertheless, parent company earnings still serve as the basis for the dividend. Its net profit totaled FRF 1,118 million, up 63.5% from FRF 680 million in 1988.

At the Annual General Meeting of Stockholders, the Board of Directors intends to propose the distribution of a dividend per ordinary and nonvoting share of FRF 34.50 (including tax credit), up 21% from the previous year. At an average market price of FRF 690, this dividend on Credit Lyonnais nonvoting shares represents a yield of 5%.

In accordance with the conditions stipulated in the offering agreement, the remuneration of perpetual participating subordinated debentures, to take place in October 1990, will be equal to 107.7% of the average bond yield (TMO) for the period 1 September 1989 to 31 August 1990.

New agreements concluded with labor representatives in 1989 give the staff of Credit Lyonnais the possibility of benefiting fully from growth in earnings. Payments for incentives and profit-sharing rose to FRF 314 million in 1989, up 128% from FRF 139 million a year earlier.



**CREDIT LYONNAIS GROUP**



**Notice of Redemption  
To the Holders of  
Whitman Finance Corporation N.V.  
(formerly IC Industries Finance Corporation N.V.)  
Sinking Fund Zero Coupon Bonds Due 1994**

NOTICE IS HEREBY GIVEN, that pursuant to the provisions of Section 5 of the Fiscal and Paying Agency Agreement dated May 15, 1982 among IC Industries Finance Corporation N.V. (now Whitman Finance Corporation N.V.) (the "Company"), IC Industries, Inc. (now Whitman Corporation), as Guarantor, and The Chase Manhattan Bank, N.A., as Fiscal Agent and Paying Agent, \$58,256,000 aggregate principal amount of the Company's Sinking Fund Zero Coupon Bonds Due 1994 (the "Bonds") will be redeemed, through operation of the sinking fund, on May 15, 1990 (the "Redemption Date"), at a redemption price equal to 58.692% of the principal amount of the Bonds to be redeemed (the "Redemption Price").

OF THE BONDS TO BE REDEEMED, BONDS REPRESENTING AN AGGREGATE PRINCIPAL AMOUNT OF \$63,798,000 HAVE BEEN DETERMINED TO BE ON DEPOSIT IN THE EUROCLEAR SYSTEM OR IN CENTRALE DE LIVRAISON DE VALEURS MOBILIERES S.A. THE CERTIFICATE NUMBERS OF SUCH BONDS HAVE BEEN COMMUNICATED DIRECTLY TO THE OPERATORS OF SUCH CLEARING SYSTEMS.

In addition to the Bonds held by the clearing systems mentioned in the preceding paragraph, the following Bonds have also been selected by the Fiscal Agent for redemption on the Redemption Date:

1	10891	17304	33675	34115	34640	35135	35601	36135	36593	37788	38179	38600	39049	39440	40914	41404	41895	42386	42877	43368	43859	44350	44841	45332	45823	46314	46805	47296	47787	48278	48769	49260	49751	50242	50733	51224	51715	52206	52697	53188	53679	54170	54661	55152	55643	56134	56625	57116	57607	58098	58589	59080	59571	60062	60553	61044	61535	62026	62517	63008	63499	63990	64481	64972	65463	65954	66445	66936	67427	67918	68409	68900	69391	69882	70373	70864	71355	71846	72337	72828	73319	73810	74301	74792	75283	75774	76265	76756	77247	77738	78229	78720	79211	79702	80193	80684	81175	81666	82157	82648	83139	83630	84121	84612	85103	85594	86085	86576	87067	87558	88049	88540	89031	89522	90013	90504	90995	91486	91977	92468	92959	93450	93941	94432	94923	95414	95905	96396	96887	97378	97869	98360	98851	99342	99833	100000
2	10892	17305	33676	34116	34641	35136	35602	36136	36594	37789	38180	38601	39050	39441	40915	41405	41896	42387	42878	43369	43860	44351	44842	45333	45824	46315	46806	47297	47788	48279	48770	49261	49752	50243	50734	51225	51716	52207	52698	53189	53680	54171	54662	55153	55644	56135	56626	57117	57608	58099	58590	59081	59572	60063	60554	61045	61536	62027	62518	63009	63500	63991	64482	64973	65464	65955	66446	66937	67428	67919	68410	68901	69392	69883	70374	70865	71356	71847	72338	72829	73320	73811	74302	74793	75284	75775	76266	76757	77248	77739	78230	78721	79212	79703	80194	80685	81176	81667	82158	82649	83140	83631	84122	84613	85104	85595	86086	86577	87068	87559	88050	88541	89032	89523	90014	90505	90996	91487	91978	92469	92960	93451	93942	94433	94924	95415	95906	96397	96888	97379	97870	98361	98852	99343	99834	100001
3	10893	17306	33677	34117	34642	35137	35603	36137	36595	37790	38181	38602	39051	39442	40916	41406	41897	42388	42879	43370	43861	44352	44843	45334	45825	46316	46807	47298	47789	48280	48771	49262	49753	50244	50735	51226	51717	52208	52699	53190	53681	54172	54663	55154	55645	56136	56627	57118	57609	58100	58591	59082	59573	60064	60555	61046	61537	62028	62519	63010	63501	63992	64483	64974	65465	65956	66447	66938	67429	67920	68411	68902	69393	69884	70375	70866	71357	71848	72339	72830	73321	73812	74303	74794	75285	75776	76267	76758	77249	77740	78231	78722	79213	79704	80195	80686	81177	81668	82159	82650	83141	83632	84123	84614	85105	85596	86087	86578	87069	87560	88051	88542	89033	89524	90015	90506	90997	91488	91979	92470	92961	93452	93943	94434	94925	95416	95907	96398	96889	97380	97871	98362	98853	99344	99835	100002
4	10894	17307	33678	34118	34643	35138	35604	36138	36596	37791	38182	38603	39052	39443	40917	41407	41898	42389	42880	43371	43862	44353	44844	45335	45826	46317	46808	47299	47790	48281	48772	49263	49754	50245	50736	51227	51718	52209	52700	53191	53682	54173	54664	55155	55646	56137	56628	57119	57610	58101	58592	59083	59574	60065	60556	61047	61538	62029	62520	63011	63502	63993	64484	64975	65466	65957	66448	66939	67430	67921	68412	68903	69394	69885	70376	70867	71358	71849	72340	72831	73322	73813	74304	74795	75286	75777	76268	76759	77250	77741	78232	78723	79214	79705	80196	80687	81178	81669	82160	82651	83142	83633	84124	84615	85106	85597	86088	86579	87070	87561	88052	88543	89034	89525	90016	90507	90998	91489	91980	92471	92962	93453	93944	94435	94926	95417	95908	96400	96891	97382	97873	98364	98855	99346	99837	100003
5	10895	17308	33679	34119	34644	35139	35605	36139	36597	37792	38183	38604	39053	39444	40918	41408	41900	42390	42881	43372	43863	44354	44845	45336	45827	46318	46809	47300	47791	48282	48773	49264	49755	50246	50737	51228	51719	52210	52701	53192	53683	54174	54665	55156	55647	56138	56629	57120	57611	58102	58593	59084	59575	60066	60557	61048	61539	62030	62521	63012	63503	63994	64485	64976	65467	65958	66450	66941	67431	67922	68413	68904	69395	69886	70377	70868	71359	71850	72341	72832	73323	73814	74305	74796	75287	75778	76269	76760	77251	77742	78233	78724	79215	79706	80197	80688	81179	81670	82161	82652	83143	83634	84125	84616	85107	85598	86089	86580	87071	87562	88053	88544	89035	89526	90017	90508	90999	91490	91981	92472	92963	93454	93945	94436	94927	95418	95909	96401	96892	97383	97874	98365	98856	99347	99838	100004
6	10896	17309	33680	34120	34645	35140	35606	36140	36598	37793	38184	38605	39054	39445	40919	41409	41901	42391	42882	43373	43864	44355	44846	45337	45828	46319	46810	47301	47792	48283	48774	49265	49756	50247	50738	51229	51720	52211	52702	53193	53684	54175	54666	55157	55648	56139	56630	57121	57612	58103	58594	59085	59576	60067	60558	61049	61540	62031	62522	63013	63504	63995	64486	64977	65468	65959	66451	66942	67432	67923	68414	68905	69396	69887	70378	70869	71360	71851	72342	72833	73324	73815	74306	74797	75288	75779	76270	76761	77252	77743	78234	78725	79216	79707	80198	80689	81180	81671	82162	82653	83144	83635	84126	84617	85108	85600	86091	86582	87072	87563	88054	88545	89036	89527	90018	90509	90990	91491	91982	92473	92964	93455	93946	94437	94928	95419	95910	96402	96893	97384	97875	98366	98857	99348	99839	100005
7	10897	17310	33681	34121	34646	35141	35607	36141	36600	37794	38185	38606	39055	39446	40920	41410	41902	42392	42883	43374	43865	44356	44847	45338	45829	46320	46811	47302	47793	48284	48775	49266	49757	50248	50739	51230	51721	52212	52703	53194	53685	54176	54667	55158	55649	56140	56631	57122	57613	58104	58595	59086	59577	60068	60559	61050	61541	62032	62523	63014	63505	63996	64487	64978	65469	65960	66452	66943	67433	67924	68415	68906	69397	69888	70379	70870	71361	71852	72343	72834	73325	73816	74307	74798	75289	75780	76271	76762	77253	77744	78235	78726	79217	79708	80199	80690	81181	81672	82163	82654	83145	83636	84127	84618	85109	85601	86092	86583	87073	87564	88055	88546	89037	89528	90019	90510	90991	91492	91983	92474	92965	93456	93947	94438	94929	95420	95911	96403	96894	97385	97876	98367	98858	99349	99840	100006
8	10898	17311	33682	34122	34647	35142	35608	36142	36601	37795	38186	38607	39056	39447	40921	41411	41903	42393	42884	43375	43866	44357	44848	45339	45830	46321	46812	47303	47794	48285	48776	49267	49758	50249	50740	51231	51722	52213	52704	53195	53686	54177	54668	55159	55650	56141	56632	57123	57614	58105	58596	59087	59578	60069	60560	61051	61542	62033	62524	63015	63506	63997	64488	64979	65470	65961	66453	66944	67434	67925	68416	68907	69398	69889	70380	70871	71362	71853	72344	72835	73326	73817	74308	74799	75290	75781	76272	76763	77254	77745	78236	78727	79218	79709	80190	80691	81182	81673	82164	82655	83146	83637	84128	84619	85110	85602	86093	86584	87074	87565	88056	88547	89038	89529	90020	90511	90992	91493	91984	92475	92966	93457	93948	94439	94930	95421	95912	964								



## INTERNATIONAL COMPANIES AND FINANCE

## Anglo American results hit by industrial action

By Philip Gawth in Johannesburg

RESULTS FROM the six gold mines managed by Anglo American Corporation, the South African industrial and mining conglomerate, show that activities on a number of mines were hampered by industrial action and other production problems during the March quarter.

The industrial action echoes the experience of other mining groups and is expected to continue in the current quarter. Despite its reputation as the most liberal of the mining houses, Anglo has suffered most from industrial unrest.

Worst hit was Vaal Reefs, the second largest of the group's mines, which had a poor quarter. A manager estimated that more than 26,000 shifts, effectively two to three days of production, were lost because of industrial action in the last quarter.

According to Mr Lionel Hewitt, general manager of the gold and uranium division, striking black workers had two significant grievances: they alleged racial discrimination in the hoisting of workers to the surface and in accommodation tests.

The group denies these allegations. In many instances matters have not been helped by the backlash from white miners who have refused to go underground unless protected.

Production was also hampered by a shortage of working face and seismic activity, especially in the South Leese area. This aggravated the ability to open up sufficient ore reserves, but efforts are being made to increase the reserves and management does not expect the problems to persist.

The 7 per cent drop in area mined over the previous quarter was reflected in a 17 per cent increase in costs per kilogramme of gold produced. Pre-tax profit, at R146m (US\$33.5m), was down 33 per cent on the previous quarter's R217.3m.

Production at Western Deep Levels continued to suffer from a fire that took place in October. The area should be back at full production in the third quarter. Although costs were kept tight, a 5 per cent drop in the amount of gold produced was reflected in a drop in pre-tax profit to R97.4m from R107.3m.

At Blandstrand production was adversely affected by planned mill modifications and a decline in grade. Pre-tax profit dropped dramatically to R32.1m from R52.1m on the back of a 17 per cent decline in gold produced.

But Mr Hewitt said that approximately 80,000 tonnes of higher grade ore were stockpiled during the quarter and this would be brought to account by the end of the year.

The other Transvaal operation, Ergo, which recovers gold and uranium from old mine dumps lifted pre-tax profit to R29.8m from R22.3m despite trouble from unseasonal rains and power failures.

Freegold, the world's largest gold mine, managed to lift profits 16 per cent over the previous quarter to R184.4m. This was achieved according to the policy outlined a year ago of producing lower volumes, but higher grades. The mine also suffered from industrial action and from a tornado which hit Welkom in mid-March.

## Kanebo's struggle for prosperity

Alice Rawsthorn on the impact of the falling yen on textile groups

The fall - and further fall - of the yen on the foreign exchange markets may have caused chaos on the Tokyo Stock Exchange and consternation in Japan's Ministry of Finance, but for some Japanese companies it has been a blessing.

One of those companies is Kanebo. Throughout the 1980s Kanebo, in common with the other large Japanese textile and fibre groups, watched the apparently inexorable rise of the yen with ill-disguised alarm.

At a time when other Japanese industries were benefiting from buoyant exports and booming domestic demand, the textile sector struggled against the parallel problems of dwindling exports and increasing imports. The chief cause of its problems was the strength of the yen.

Even the giants of the industry such as Kanebo, one of the oldest Japanese industrial companies and now the world's biggest single textile group, were not spared. Kanebo began the 1980s in the red and has since then suffered a painful period of cost-cutting, steering itself back to stability. The challenge for Kanebo in the 1990s is to turn that stability into a longer term recovery. The fall of the yen could scarcely have been better timed.

Kanebo began in business as a small spinning mill - the Tokyo Cotton Trading Company - in 1886 at the dawn of the Meiji period of Japanese industrialisation. The Kanebo of today, run from Osaka, is involved in every part of the textile production process from fibres, through spinning and weaving to sewing the finished

THE FIVE LARGEST INTERNATIONAL TEXTILE GROUPS IN 1983			
Company/Rank	Country	Turnover (£bn)	Workforce
1. Kanebo	Japan	2.4	9,086
2. Coats Vytella	UK	2.1	41,300
3. Armstrong	US	1.7	25,941
4. Chateaux	France	1.7	22,126
5. Milliken	US	1.6	14,000

garments. It is the world's most diversified textile group, being involved with all three synthetic fibres and the three main natural fibres too.

By the early 1980s Kanebo was in trouble. The Japanese textile companies, which originally concentrated on domestic goods for their domestic market, had suffered severely in the oil price crises of the 1970s when raw material costs increased and the yen strengthened against other currencies.

Their problems continued and accelerated after the Plaza Accord in 1985 when the yen rose even more rapidly on the foreign exchange markets. Textile imports poured into Japan and the Japanese companies' exports declined dramatically. The index of textile production fell from 100 in 1980 to 93 in 1987, at a time when the index for all Japanese manufacturing rose from 100 to 125. The level of textile import penetration doubled from 16 to 37 per cent between 1980 and 1988. The balance of trade in textiles swung into deficit.

A company such as Kanebo was dealt a double blow. First, its textile interests were hit by increasing imports. Second, its fibre subsidiaries suffered from the problems of their customers in other Japanese companies. Moreover, all its compa-

nies were exposed on the export front, with other groups such as Toray and Teijin, was forced to resort to rationalisation. Two years ago it withdrew from viscose production and closed its Hoku plant. It also merged some of its textile companies and redirected others towards more up-market products.

The rationalisation involved substantial job losses in fibres and textiles. Yet, in common with other Japanese companies, Kanebo offers its employees jobs for life and redeployed its textile workers in its expanding cosmetics and pharmaceutical companies.

Kanebo has also reviewed its products. The strategy across all its activities has been to move up-market. In fibres, it is expanding in the fine denier products where the Japanese have a technical edge over their western competitors. One of the main areas of expansion in textiles is its hair-

KANEBO RESULTS		
Year	Sales (£bn)	Earnings (£bn)
1988	326.5	7.3
1989	330.8	8.1
1987	362.5	6.1
1986	361.8	7.2
1985	481.8	9.1

Source: Kanebo.

## Pioneer to sell stake in tin mining

By Bruce Jacques in Sydney

PIONEER International, the diversified Australian building products group, has announced it will sell its stake in the ASX233m bid for Brick and Pipe Industries, announced this week.

Sir Tristan Antico, chairman, said yesterday the company had agreed to sell its 30 per cent stake in the separately-listed Pioneer Mineral Exploration (PME) to Malaysia Mining Corporation Berhad (MMC) for A\$41.7m. The cash generated would help fund the purchase of Brick and Pipe, Australia's third biggest brick maker.

The proposed PME sale is at 85 cents a share, 22 cents above yesterday's market price. It will need to be approved by that company's shareholders, who are being asked to waive MMC's normal obligation to bid the same price for the remainder of the shares.

The sale is Pioneer's second big mineral asset divestment recently. The other was the sale of the company's mineral sands operations.

## Shell Oil to sell healthcare unit

By Alan Archer in San Francisco

SHELL OIL, the US subsidiary of Royal Dutch/Shell, is to discontinue its involvement in healthcare following the announcement that it is seeking a buyer for its wholly-owned Triton Biociences operation, based in Alameda, California.

Founded in 1983 to develop and market pharmaceuticals and vaccines for cancer, viral diseases and other serious illnesses, Triton employs some

300 people and has a number of products in various stages of development.

Mr Davis Richardson, president of Shell Chemical and chairman of Triton, said: "Shell views Triton as a successful healthcare operation. However, after extensive review, Shell has decided Triton is not sufficiently related to its principal petrochemical business to retain for the long term."

Morgan Stanley New York has been engaged as Shell's financial adviser for the proposed sale, which could interest a number of European and Japanese companies wanting to buy into the US pharmaceutical market.

One potential purchaser could be Berlin-based Schering, which is on the lookout for a small, highly-innovative biopharmaceutical company. Triton might fit the bill.

## Aluminium price fall hits Comalco

COMALCO, the aluminium producer 67 per cent owned by Australian resources group CRA, will report lower net profits for calendar 1989 than the A\$310.9m (US\$288.5m) for 1988 because of an anticipated fall in aluminium prices, according to Mr John Ralph, chairman. Reuters reports from Melbourne.

He said Comalco's first-quarter profit was lower than the 1988 quarter as prices and sales tonnages were both lower.

Aluminium prices had fallen since November 1988. Growth in world consumption might be slower than 1989, but was expected to remain positive.

## Bankers Trust venture

By Jim Bodgener in Ankara

BANKERS Trust, the large US wholesale bank, and Turkpetrol, a leading Turkish distributor of refined petroleum products and petrol station operator, yesterday received approval from the Ankara State Planning Organisation to set up the country's first venture capital company, Turtrust.

The venture will be capitalised at \$60m. It is the latest in an increasing trend of foreign investor

interest in Turkey. It will inject equity into viable companies or developments which are experiencing financing bottlenecks and will concentrate initially on the tourism and leisure sectors. Once the companies have been brought to profitability, Turtrust plans to sell its equity and reinvest the proceeds.

It hopes to begin operating in the summer, pending approval from the industry Minister.

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## NORDISKA INVESTERINGSBANKEN

(Nordic Investment Bank) **12½% Notes 1983/90.** NOK 100,000,000.-

In accordance with the Paying Agency Agreement, the following Notes are drawn for redemption.

Maturity 15th July 1990.

Last instalment  
All outstanding Notes - 2,500 Notes each NOK 10,000

All Notes will become payable in NOK at the offices of: Bergen Bank A/S in Bergen, Citibank, N.A. in London, Paris, Zurich, Frankfurt, Brussels and Citibank (Luxembourg) S.A.

From and after 15th July 1990, interest on all the above-mentioned Notes will cease to accrue.

We remind you that the following Notes from earlier drawings have not yet been presented for payment:

15th July 1989:									
8	308	834	1095	1658	1951	2734	3121	3693	3879
18	442	837	1116	1667	1952	2763	3122	3694	3880
37	578	838	1205	1671	1984	2785	3191	3756	3882
41	608	840	1227	1672	1998	2786	3193	3789	3896
42	627	869	1229	1673	2070	2791	3397	3792	3901
48	672	870	1234	1757	2202	2794	3576	3797	3902
52	673	895	1289	1761	2208	2814	3578	3799	3914
53	674	940	1363	1776	2276	2847	3580	3805	4726
57	675	953	1480	1787	2337	2900	3584	3805	4727
60	678	954	1481	1806	2457	2901	3588	3820	4729
61	722	956	1483	1812	2459	2903	3591	3833	7313
63	728	962	1628	1814	2462	2982	3654	3834	
88	729	982	1634	1831	2465	2988	3672	3835	
90	800	985	1639	1834	2573	3018	3676	3838	
104	830	987	1655	1857	2585	3100	3678	3843	
165	831	1008	1657	1855	2660	3115	3691	3878	

15th July 1989:									
322	447	1224	1823	2423	2549	3188	3194	3767	7276
443	596	1821	2420	2424	2550	3189	3592	3769	7443
445									

15th July 1987:									
1982	3187	3190	3192	3427	3770	3771	6734		

BERGEN BANK A/S

## Telefonica International Holding B.V.

a wholly owned subsidiary of

## Telefónica de España S.A.

has acquired a controlling stake in

## Compañía de Telefonos de Chile

for

US\$388.5 million

## Barclays de Zoete Wedd S.A.

acted as advisor to

Telefónica Internacional in this transaction

Hong Kong

London

Madrid

Sydney



BARCLAYS de ZOETE WEDD

April, 1990







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## Samsung postpones \$75m warrants issue once more

INTERNATIONAL BOND			
Iss. no.	Coupon %	Price	Maturity
1	11.5	100	2000
2	10 1/4	100.075	1995
3	13 1/4	101 1/2	1993
4	7 1/4	101 1/4	2000

Coupon, Payment date 22 May 1990, b)F

task force countries, though four more have legislation pending. There is also only a limited basis for international co-operation, as existing treaties do not allow all task force countries to allow freezing or control of ordinary bank accounts. Anonymous bank accounts are not allowed in any of the countries, although Austria

The public offering of Ibusz is Hungary's first real privatisation, so the authorities are determined to make the issue a success. Ibusz was chosen because the enterprise is profitable, earns hard currency and stands to gain from the expansion of tourism in Hungary.

Malev, the Hungarian state airline, is also moving towards privatisation. The size of the issue is expected to make a foreign tranche necessary.

ology development. Marks the end of OM's futures market, a bid to establish a competition with the three banks supported the Maffi into the contract. Under a futures contract, the banks port. "Unfortunately more interested in

[illegible]





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## KONINKLIJKE NEDERLANDSCHE HOOGOVENS EN STAALFABRIEKEN NV, IJMUIDEN, THE NETHERLANDS

Invitation to attend the annual

### general meeting of shareholders

to be held on Tuesday, 8 May 1990, in the Okura Hotel, Ferdinand  
Bolstraat 333, Amsterdam, starting at 2.00 p.m.

The matters for discussion will be:

- The Report of the Board of Managing Directors for 1989.
- Approval of the Accounts for 1989; consideration of the dividend proposal.
- Retirement and (re)appointment of Supervisory Board members. For all information on this subject we would refer you to pages 2 en 3 of the Annual Report.
- Authorization of the Board of Managing Directors to purchase (depository receipts for) shares in the Company.
- Designation of the Board of Managing Directors as the body empowered to take decisions concerning the issue of shares, the granting of rights in respect thereof and the limiting or exclusion of subscription rights.
- Proposal to fix the remuneration of the members of the Supervisory Board.

The meeting is open to all shareholders and depository receipt holders either in person or represented by a proxy authorized in writing, provided that, in the case of holders of ordinary bearer shares these holders have lodged their share certificates - and in the case of depository receipt holders these holders have lodged their depository receipts - not later than Thursday, 3 May 1990, at the offices of one of the following banks:

**In the Netherlands:**  
Algemene Bank Nederland N.V. in Amsterdam, Rotterdam or The Hague,  
Amsterdam-Rotterdam Bank N.V. in Amsterdam, Rotterdam or The Hague;  
**In Belgium:**  
Kredietbank N.V. in Brussels;  
**In Germany:**  
Deutsche Bank AG in Frankfurt am Main or Düsseldorf;  
**In France:**  
Lazard Frères & Cie in Paris;  
**In Switzerland:**  
Union Bank of Switzerland in Zurich, Crêdit Suisse (Swiss Credit Bank) in Zurich, Swiss Bank Corporation in Basel;  
or have submitted evidence of the fact that they are shareholders or depository receipt holders at the Company's offices in IJmuiden not later than Thursday, 3 May 1990, which may be effected by submission of evidence that their share certificates or depository receipts have been deposited for safe keeping with De Nederlandsche Bank N.V. or with one of the banks mentioned above and are blocked with such bank until the close of the meeting.  
The certificate of deposit issued by one of the above-mentioned banks will serve as an admission pass for entry to the meeting.  
The Annual Accounts for 1989 together with the Agenda are available for inspection at the Company's offices; copies may be obtained free of charge from the above-mentioned banks by shareholders, depository receipt holders and holders of the 6% convertible debenture loan 1985.

IJmuiden, 20 April 1990

KONINKLIJKE NEDERLANDSCHE  
HOOGOVENS EN STAALFABRIEKEN NV

## Hoogovens Groep

## WESSANEN

KONINKLIJKE WESSANEN NV

### Dividend payment

#### Ordinary shares

At the Annual General Meeting of Shareholders held on April 19, 1990, the dividend for the financial year 1989 was fixed at Dfl 2.44 for each ordinary share (par value Dfl 5). An interim dividend of Dfl 0.72 was already made payable, the final dividend will be Dfl 1.72.  
The undersigned hereby states that payment of the final dividend of Dfl 1.72 per Dfl 5 share of Koninklijke Wessanen NV on the bearer depository receipts issued by the undersigned will be made as from May 7, 1990 as follows:

A cash dividend of Dfl 0.68 per Dfl 5 share, less dividend tax at 25%, will be payable upon the surrender of dividend coupon No. 11.  
The dividend of Dfl 1.04 per Dfl 5 share in cash or 2% in shares chargeable to the paid-in surplus will be payable upon the surrender of dividend coupon No. 12. If holders of bearer depository receipts opt for the dividend of Dfl 1.04 in cash, payment, less dividend tax at 25%, will be made upon the surrender of dividend coupon No. 12. In so far as holders of bearer depository receipts opt for the dividend of 2% in shares chargeable to the paid-in surplus, the surrender of dividend coupons bearing the number 12 and relating to 50 ordinary shares will entitle the holder to receive one new bearer depository receipt for one share, bearing dividend coupons numbered from 13 onwards and a talon.

If any dividend coupons bearing the number 12 are not tendered for conversion into bearer depository receipts by June 29, 1990, the bearer depository receipts to which they relate will be sold and the net proceeds of the sale be held at the disposal of the holders of these bearer depository receipts in proportion to their holding.

Commission in accordance with the scales laid down will be paid to members of the Amsterdam Stock Exchange Association in connection with the conversion of dividend coupons bearing the number 12 into new bearer depository receipts; this implies that holders will not incur commission charges upon conversion.

Dividend coupons may be tendered for payment or conversion at the head offices of the Amsterdam-Rotterdam Bank NV, Pilsen, Holding & Pilsen NV, Algemene Bank Nederland NV, Bank Mees & Hope NV, Credit Lyonnais Bank Nederland NV and the NMB-Postbank Groep NV in Amsterdam, the Netherlands.  
Dividend coupons must bear the stamp of the office through which they are tendered. The dividend pertaining to bearer depository receipts of the CF type will be paid via the body by whom the dividend sheet was held on April 19, 1990 in accordance with the conditions of administration.

Stichting Administratiekantoor van aandelen Koninklijke Wessanen NV  
Amsterdam, April 20, 1990

Koninklijke Wessanen NV  
P.O. Box 410  
1180 AK Amstelveen  
The Netherlands



## UK COMPANY NEWS

### Lep makes £26m and set for eastern bloc growth

By Andrew Hill



John Read: earnings growth reflects performance

LEP GROUP, the services combine with extensive distribution and freight forwarding operations in West Germany, is poised to expand into eastern Europe.

This news was given with the preliminary statement issued yesterday, showing a 44 per cent rise in 1989 pre-tax profits to £26.5m (£18.5m).

Mr John Read, chairman, said: "We have always done a substantial amount of business with the eastern bloc and the political changes that have taken place over the last few months have thrown up new opportunities in our field."

The 1989 profits benefited from a full year contribution from National Guardian Corporation, the US security business which became a wholly-owned subsidiary in September 1988. NGC is one of the five largest security groups in the US.

The NGC acquisition altered the balance of the group's activities, with more than half of operating profits coming from security services, up from £8.67m to £25m. Distribution profits increased to £15.2m (£9.9m) and property and other activities made £3.61m (£10.8m). Group turnover rose from £1.1bn to £1.39bn.

Mr Read said earnings per share growth of 24 per cent - from 11.5p to 15.4p - provided the best reflection of the group's performance. The final dividend is 4.25p, making 6p (4.75p) for the year.

Interest charges rose sharply from £9.66m to £17.5m, although borrowings as a proportion of shareholders' funds came down from 120 per cent to 106 per cent. Mr Read said the group was untroubled by the high gearing because asset backing from the property portfolio was estimated at 150p per share, compared with yesterday's share price of 148p, down 4p.

● **COMMENT**  
Lep's 1989 profits were actually slightly below most market expectations, but analysts are still reasonably content about the long-term prospects. They foresee further benefits as management polishes existing activities and exploits the east European market. In spite of economic fears, the low-margin freight forwarding and distribution business continues to record the high volumes necessary to maintain growth. The profits breakdown this time should not be taken as a firm indication of the future balance of the business - the divisions are at different stages of development, points out Mr Read - but National Guardian's strong reputation and contribution should continue to underpin the distribution profits. Recently, the shares have bounced back from a low of 126p in October: assuming the group makes more than £34m before tax this year they should be worth holding on a prospective p/e of about 8.

### Group's bankers confirm support as shares sustain 22% fall Rockfort profit crashes by £5.7m

By John Thornhill

ROCKFORT GROUP, the Reading-based property developer headed by Mr Roger Smees, yesterday revealed a sharp fall in pre-tax profits for 1989 which led to a 22 per cent drop in the value of its shares.

The company thought it appropriate to confirm it had the continuing support of its bankers.

Turnover rose to £52.35m (£44.84m) but pre-tax profits slumped to £3.11m (£8.84m). Resultant earnings per share dropped to 4.0p (16.2p), and the dividend is cut to 1.9p (2.6p) with a final of 0.5p. The shares closed 7p lower at 25p, compared with a flotation price of 140p in the summer of 1988.

These results added more proof, if any was needed, of the distressed state of the property sector, and the company held out few hopes that the sector was likely to see much of a recovery in 1990. It was reducing its financial exposure to

speculative property development accordingly.

Indeed, the results would have been even worse had it not been for a change in accounting policy. The interest costs on commercial development properties, which were previously taken through the profit and loss account, have been capitalised in the latest set of results.

Under the previous accounting system, pre-tax profits would have been £1.85m and earnings per share 2.7p.

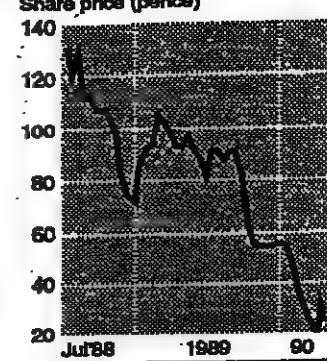
Mr Smees said two related changes in the trading environment had led to a reduction in profitability.

First, Mr Smees said the "virtual disappearance" of institutional investors, especially in the second half of the year, had made it difficult to fund commercial projects.

Second, he claimed the high interest rate environment had hit margins at Rockfort Homes

### Rockfort Group

Share price (pence)



and depressed demand for the company's office and retail developments.

The total number of units sold by Rockfort Homes during the period was 313 compared with 158 in 1988. Its contribution to the group's profits was reduced from £1.77m to £1.64m

but that was thought to be a considerable achievement in the circumstances.

Margins had been squeezed but there was a satisfactory level of sales and a positive cash flow. By the year end the land bank stood at 269 units. Rockfort had not acquired any new development land since August 1988 but had several options.

Mr Smees said the company was, however, involved in three major projects which should provide a solid base for development into the 1990s.

The projects are: a town centre shopping scheme in Newport, Gwent; a riverside development in Chelmsford; and a joint £250m shopping and leisure centre in Reading.

Interest payments for 1989 rose to £3.55m (£2.67m). At the year end balance sheet borrowings stood at £26.5m (£11.7m) and gearing levels rose from 41 per cent to 89 per cent.

### Higher interest costs hit IBC

By Jane Fuller

INTERNATIONAL BUSINESS Communications, which publishes business information and organises conferences, saw pre-tax profits fall by 32 per cent in 1989 after a fivefold increase in interest costs.

The group's debt shot up in February last year after it spent about £40m buying back 40 per cent of its shares. While pre-tax profit fell from £13.33m to £9.01m, earnings per share went up to 16.5p (13.4p).

Turnover, partly swelled by acquisitions, advanced 42 per cent to £94.77m. Operating profit was 13 per cent ahead at £16.58m.

Mr Michael Bell, chairman, said the margin had been reduced because the publishing activities that had been added had lower margins than the 50 per cent level enjoyed by the Fleet Street Letter tip-sheet business during the bull market. After three good years, tip-sheet was expected to fall back this year.

Nearly half of the operating profit was soaked up by £7.57m (£1.43m) in interest costs. Mr Bell said debt had come down from £71.5m to £67.5m. The

company had made the scheduled £10m repayment on the syndicated loan associated with the shares buy-back. But its overdraft had risen.

The schedule involves a further repayment of £10m this year.

Business information accounted for 57 per cent of turnover and 61 per cent of operating profit, proportions that were set to rise this year partly because of disposals of non-publishing businesses.

Mr Bell also said that about two thirds of business information profits arose outside the UK, serving professional markets in the US, the Netherlands, Italy and Australia.

In the UK, however, trading difficulties had had an effect on parts of the conference business as well as in the tip-sheet operation. Business publishing had not been affected.

IBC also announced yesterday the sale of three subsidiaries for a total of £1.8m. Swinton Electro-Plating and ASM Accessories have been sold to Mr Don Smith, their managing director; Mallerian Summerfield, an advertising

agency, has gone to McCann Erickson.

A final dividend of 3p makes a total of 4.5p (4.1p).

The share price closed 1p down yesterday at 69p.

#### ● COMMENT

The jury is still out on whether the audacious buy-back of shares, at 150p - then 7p above the market price, will pay off. So far the results - apart from the earnings per share growth - have been inauspicious. Apart from the heavy burden of interest costs, the more difficult conditions have meant that disposals of non-core businesses have taken longer and raised less than might have been hoped, aggravating the overdraft. While no one doubts the strength of business publishing and the overseas earnings, the question is how vulnerable are the UK

conferencing, financial advice and marketing activities? The forecast pre-tax profit is 28m, giving a prospective multiple of little more than four. It looks cheap, but so much depends on the outlook for interest rates.

### Frost tops £5m after 42% advance

FROST GROUP, the petrol retailer and sales promotion company, continued its growth in 1989 with taxable profits rising 42 per cent from £5.53m to £7.92m.

The company anticipates another record year in 1990 and plans to change its name.

During the year R Raphael & Sons, the banking services arm, increased profits to £409,000 (£351,000).

Mr Robert Frost, chairman, said that the activity was unrelated to petrol retailing and that it was intended to demerge the company onto

the Unlisted Securities Market.

In the last few days an interesting offer has been received which the directors were considering, said Mr Frost. As a result the demerger details would be held back until the position clarifies.

During the year the company's sites increased from 66 to 68. Since the year-end this had risen to 100 following further purchases.

However, for the future Mr Frost said that following the Monopolies and Mergers Commission conclusion that there was no need for change in the

oil companies retail activities, prices for sites would increase.

It could not afford to pay the yardstick price of £1 per gallon of annual throughput mentioned in the MMC report but by "acquiring, planning and developing ourselves" he said, the company could buy at lower than that level.

When the move was complete shareholders will be asked to agree a change of name, probably to Save Petrol Retailers.

Turnover for the period increased 33 per cent to £75.3m (£56.62m). Earnings per share came out at 25.2p (18.03p) and the total dividend is raised to 13p (9.25p) with a proposed final of 7.75p.

### Brown & Jackson issue flops

By Maggie Urry

ONLY 9.4 per cent of an issue of new shares from Brown & Jackson, the discount retail group, has been taken up by its existing shareholders.

A simultaneous issue of convertible preference shares was taken up by 10.9 per cent of existing holders.

However, Mr Bryan Duffy, chairman, said he was not disappointed with the result of the issue which took the form of a conditional placing with an open offer to existing shareholders. Mr Duffy said that the group "would not anticipate issuing any more new shares in the coming year."

He said that institutional shareholders had taken up the new shares through their subscription commitments rather than by claiming their shares under the clawback procedure.

Lowndes Queensway, the lease-making furniture and carpet retailer, which held a 20 per cent stake in Brown & Jackson, did not take up its entitlement.

The existing shares closed yesterday at 59p, unchanged on the day, and 6p below the 65p placing price. The new shares ended their first day's trading at 50 1/2p.

The two issues raised £31.4m which will be used to repay debt and to expand the Poundstretcher chain which Brown & Jackson bought from Lowndes in March last year.

### Drayton Cons Trust

Net asset value of Drayton Consolidated Trust fell to 632.75p at end-March 1990, against 654.625p a year earlier and 700p at September 30. Net revenue for the six months to March 31 was £2.4m (£2.09m) for earnings of 6.91p (6p). An interim dividend of 4.26p (3.75p) is declared.

### UK accounts for 30% of global merger activity

By David Waller

GLOBAL MERGERS and acquisitions activity tumbled by one third during the first quarter of 1990 compared to the last quarter of 1989, according to statistics compiled by KPMG Peat Marwick McLintock, the accountancy firm.

But although the total value of deals has fallen from £40bn to £25bn (£15.2bn) over the period, the UK has continued to be extremely active, accounting for 20 per cent of the global acquisitions by value and 30 per cent by number, against 21 and 27 per cent respectively during the last quarter of 1989.

The UK made 148 acquisitions in the period worth

£5.2bn, against 63 cross-border disposals.

The average value of the deals conducted during the period fell by 37 per cent, although the value of deals in the market for medium-sized companies - those under £100m - fell by an average of only 22 per cent.

Peat Marwick blames the decline on two factors: the collapse of the US junk bond market which has made it difficult for US companies to finance cross-border transactions, and high interest rates.

Copies of Deal Watch are available from Mergers and Acquisitions Services, KPMG Peat Marwick McLintock, 1 Puddle Dock, London EC4.



## DAI ICHI KYOTO REINSURANCE COMPANY S A

Dai Ichi Holdings Plc, together with a minority shareholder, acquired on 30th March 1990 the entire issued and paid share capital and loan stock of Dai Ichi Kyoto Reinsurance Company S A from the shareholders in consideration for the payment of Bfr 1,601,525,000 (USD 45,750,000).

An amount of Bfr 160,000,000 (USD 4,570,000) was paid in full for all the issued shares and an additional amount of Bfr 1,441,525,000 (USD 41,180,000) was paid for the settlement in full of the Subordinated Loans inclusive of accrued interest, thus releasing a reserve fund of Bfr 1,441,525,000 (USD 41,180,000).

326 Avenue Louise  
1050 Brussels  
Belgium

Tel: (02) 646 1408 Tel: (02) 646 1350  
Fax: (02) 646 2639

### SUNBELT HOLDINGS S.A.

Registered Office: 7, rue Pierre d'Aspelt  
1142 Luxembourg R.C. Luxembourg B18113  
NOTICE TO THE SHAREHOLDERS

Notice is hereby given to holders of shares in SUNBELT HOLDINGS S.A. that an EXTRAORDINARY GENERAL MEETING will be held on the 30th of April, 1990 at the registered office in order to consider a proposal to restructure the share capital of the company in accordance with the following resolutions:

1. To give discharge to the directors who have resigned: Mr Erik Monson whose resignation became effective from the 26th January, 1990, Mr Serge Tabery whose resignation became effective from the 29th of January 1990, Mr Richard Mallory whose resignation became effective from the 14th March, 1990 and Mr Thomas E. Salter whose resignation became effective from the 28th March, 1990.
2. To consolidate the existing share capital being 1,735,000 shares of USD 10. - each, by changing the shares' nominal value to obtain 173,500 shares of USD 100. - each.
3. To reduce the par value of USD 100. - each down to USD 21.39. - per share to reflect the write down of the value of the investments of Sunbelt Holdings' subsidiaries in the real estate market and to compensate their consequent losses.
4. To waive the shareholders' preferential subscription rights.
5. To authorise the directors of the Company within the limits of the authorised capital to increase the share capital from USD 3,711,165. - by an additional 7,000,000 - to USD 10,711,171. - by issuing 327,256 additional shares to rank pari passu with 173,500 shares as per resolution 2.

Shareholders should note that the three remaining directors of the Company have conditionally tendered their resignations and that, as a consequence if the resolutions 2-5 inclusive are not all passed then in addition the following resolutions will be put to the meeting:

6. To accept the resignations and to grant discharge to the three remaining directors, Mr Tor Andersen, Mr Tore Diskerud and Mr John Graham.
7. To put the Company into voluntary liquidation and to appoint a liquidator.

Shareholders should note that certain of the loans advanced by third parties to subsidiary companies and for which the Company is guarantor are in default and that the respective lenders have already commenced proceedings to realise their security.

A memorandum to shareholders setting out all the proposals in detail is available from the Company at its registered office at 7, Rue Pierre d'Aspelt, Luxembourg, and from the office of its principal US subsidiary Sunbelt Holdings Inc from Gateway 425 North, 44th Street, Suite 375, Phoenix, Arizona 85006.

The Board of Directors.



Vol 11 no 15

£5.7m

Brown & Jackson  
Issue flops

## Abridged quarterly reports and preliminary profit announcements – Dividend declarations

### Abridged reports for the quarter ended March 31 1990

#### Vaal Reefs

Issued Capital in shares of 50 cents each: 19 000 000 ordinary and 100 694 (previously 59 734) S ordinary shares

	Quarter ended Mar. 1990	Quarter ended Dec. 1989	Year ended Dec. 1989 (Audited)
<b>Gold</b>			
Area mined – m <sup>3</sup> 000	497	536	2 090
Tons milled 000	2 694	2 778	10 920
Yield – g/t	6.64	6.86	6.91
Production – kg	17 818	10 067	75 455
Cost – R/ton milled	159.05	140.13	138.50
Cost – R/kg produced	23 959	20 416	20 044
Price received on gold sales – R/kg	33 610	32 475	32 056
Uranium oxide			
Tons treated 000	1 275	2 331	9 195
Yield – kg/t	0.19	0.20	0.19
Production – kg	429 899	463 172	1 784 768
<b>Turnover</b>	<b>616.3</b>	<b>664.3</b>	<b>2 577.5</b>
Profit before taxation	146.0	217.3	821.4
Provision for taxation	15.3	43.2	217.9
Profit after taxation	130.7	174.1	603.5
Appropriation for capital expenditure	59.9	97.2	307.2
Profit available	66.8	76.9	296.3
<b>Dividends – including a final dividend of 800 cents per share</b>			<b>306.3</b>
Decrease in retained profit			9.0
Earnings per share – cents	318	403	1 554
Capital expenditure – R million	76.5	97.9	321.6

- Notes:
1. Production was adversely affected by a number of seismic events particularly in the South Lease area, and sporadic incidents of labour unrest.
  2. The previous quarter's results include a half-yearly dividend from Southvaal Holdings Limited and are therefore not directly comparable with this quarter.
  3. Orders placed and outstanding on capital contracts as at March 31 1990 totalled R147.1 million.

#### Elandsrand

Issued Capital in shares of 20 cents each: 96 619 825 ordinary and 330 471 (previously 209 661) S ordinary shares

	Quarter ended Mar. 1990	Quarter ended Dec. 1989	Year ended Dec. 1989 (Audited)
<b>Area mined – m<sup>3</sup> 000</b>	<b>102</b>	<b>83</b>	<b>359</b>
Tons milled 000	487	548	1 944
Yield – g/t	6.27	6.76	6.67
Production – kg	9 116	3 707	12 971
Cost – R/ton milled	143.00	131.90	132.54
Cost – R/kg produced	22 808	19 499	19 864
Price received on gold sales – R/kg	33 485	32 583	32 154
<b>Turnover</b>	<b>102 653</b>	<b>124 414</b>	<b>430 329</b>
Profit before taxation	32 895	52 104	185 756
Provision for taxation	253	266	2 804
Profit after taxation	31 642	51 838	182 952
Appropriation for capital expenditure	16 691	24 640	85 554
Profit available	15 151	27 198	77 398
<b>Dividends – including a final dividend of 40 cents per share</b>			<b>77 500</b>
Decrease in retained profit			102
Earnings per share – cents	33	53	168
Capital expenditure – R000	25 492	32 019	115 946

- Notes:
1. Gold production was adversely affected by planned mill modifications and an anticipated decline in grade from the main shaft. Excess ore hoisted during the quarter was stockpiled on surface. The mill modifications were completed during the quarter and the grade has returned to normal levels.
  2. Orders placed and outstanding on capital contracts – as at March 31 1990 totalled R24 336 000.

### Western Deep Levels

Issued Capital in shares of R2 each: 27 194 115 ordinary and 277 757 (previously 217 082) S ordinary shares

	Quarter ended Mar. 1990	Quarter ended Dec. 1989	Year ended Dec. 1989 (Audited)
<b>Area mined – m<sup>3</sup> 000</b>	<b>215</b>	<b>225</b>	<b>917</b>
Tons milled 000	1 638	1 689	6 584
Yield – g/t	5.69	5.78	6.16
Production – kg	9 318	9 757	40 569
Cost – R/ton milled	135.28	129.86	124.82
Cost – R/kg produced	23 781	22 483	20 257
Price received on gold sales – R/kg	33 676	32 480	32 077
<b>Turnover</b>	<b>312.7</b>	<b>322.0</b>	<b>1 307.8</b>
Profit before taxation	97.4	107.3	510.5
Provision for taxation	16.2	(10.6)	89.2
Profit after taxation	81.2	117.9	421.3
Appropriation for capital expenditure	58.9	95.9	390.0
Profit available	22.3	22.0	131.3
<b>Dividends – including a final dividend of 220 cents per share</b>			<b>131.6</b>
Decrease in retained profit			0.3
Earnings per share – cents	85	80	479
Capital expenditure – R million	58.9	96.8	295.4

- Note:
1. Gold production continued to be adversely affected by the fire which was reported last quarter. It is evident that the fire has now been smothered and mining faces are currently being re-established. Full production from the area is likely to be achieved during the third quarter of this year.
  2. Orders placed and outstanding on capital contracts as at March 31 1990 totalled R63.1 million.

### S.A. Land

Issued Capital in shares of 35 cents each: 9 182 700 ordinary and 131 005 (previously 69 495) S ordinary shares

	Quarter ended Mar. 1990	Quarter ended Dec. 1989	Year ended Dec. 1989 (Audited)
<b>Tons milled 000</b>	<b>597</b>	<b>665</b>	<b>2 656</b>
Yield – g/t	5.62	0.54	0.54
Production – kg	372	357	1 427
Production, transport and screening costs – R/ton milled	16.48	14.44	13.09
Cost – R/kg produced	26 468	26 894	24 365
Price received on gold sales – R/kg	33 684	32 726	32 105
<b>Turnover</b>	<b>12 476</b>	<b>11 770</b>	<b>46 001</b>
Profit before taxation	1 394	1 227	6 571
Provision for taxation	491	205	2 391
Profit after taxation	903	1 022	4 180
Appropriation for capital expenditure	(243)	–	(34)
Profit available	1 146	1 022	4 214
<b>Dividends – including a final dividend of 20 cents per share</b>			<b>4 172</b>
Increase in retained profit			42
Earnings per share – cents	12	11	46
Capital expenditure – R000	9	7	106

- Notes:
1. There were no orders placed or outstanding on capital contracts as at March 31 1990.

### Ergo

Issued Capital in shares of 50 cents each: 42 078 712 ordinary and 3 491 527 (previously 3 440 944) S ordinary shares

	Quarter ended Mar. 1990	Quarter ended Dec. 1989	Year ended Dec. 1989 (Audited)
<b>Material treated – tons 000</b>	<b>9 443</b>	<b>9 556</b>	<b>37 092</b>
Gold production – kg	3 910	2 957	11 732
Uranium production – kg	26 025	39 680	149 736
Acid production – tons	136 643	129 531	491 453
Price received on gold sales – R/kg	33 918	32 396	32 482
<b>Turnover</b>	<b>113 642</b>	<b>106 856</b>	<b>430 728</b>
Profit before taxation	29 825	22 276	101 606
Ergo division	28 396	13 207	67 441
Daggafontein division	7 911	7 223	29 406
Simmering division	1 578	1 846	4 759
Provision for taxation	4 942	3 439	17 877
Profit after taxation	24 883	18 837	83 729
Appropriation for capital expenditure	9 527	8 257	35 662
Profit available	15 356	10 580	48 067
<b>Dividends – including a final dividend of 55 cents per share</b>			<b>47 824</b>
Increase in retained profit			243
Earnings per share – cents	33	23	105
Capital expenditure – R000	9 770	7 688	34 414

- Note:
1. Orders placed and outstanding on capital contracts as at March 31 1990 totalled R5 746 000.

### Freegold

Issued Capital in shares of 50 cents each: 116 179 121 ordinary and 1 431 787 (previously 890 871) S ordinary shares

The following are the results of the company and its wholly-owned operating subsidiary, Free State Consolidated Gold Mines (Operations) Limited.

	Quarter ended Mar. 1990	Quarter ended Dec. 1989	Year ended Mar. 1990
<b>Gold</b>			
Area mined – m <sup>3</sup> 000	843	1 043	3 980
Tons milled 000	6 434	6 513	26 055
Yield – g/t	4.31	4.25	4.22
Production – kg	27 727	27 710	109 851
Cost – R/ton milled	122.38	116.71	113.38
Cost – R/kg produced	28 399	27 432	26 892
Price received on gold sales – R/kg	33 892	32 461	32 580
<b>Metallurgical Scheme</b>			
Silimes treated – tons 000	3 796	4 162	16 531
Uranium oxide produced – kg	96 813	107 156	424 536
Gold produced – kg	431	544	2 178
Acid produced – tons	83 258	98 636	396 303

	R million	R million	R million
<b>Turnover</b>	<b>978.5</b>	<b>931.5</b>	<b>3 737.1</b>
Profit before taxation	192.8	167.9	762.1
Provision for taxation	8.4	7.9	64.7
Profit after taxation	184.4	160.0	697.4
Appropriation for capital expenditure after loan finance	96.5	77.4	350.4
Profit available	87.9	82.6	347.0
<b>Dividends – including a final dividend of 145 cents per share</b>			<b>346.1</b>
Increase in retained profit			0.9
Earnings per share – cents	75	71	295.0
Capital expenditure – R million	121.4	87.9	396.4

- Note:
1. Orders placed and outstanding on capital contracts as at March 31 1990 totalled R102.9 million.

**HOLDING COMPANY OF FREEGOLD**  
Orange Free State Investments Limited holds 58 761 785 Freegold shares representing 49.96 per cent (December 31 1989: 50.19 per cent) of the current issued share capital. As a result of the issue of new Freegold shares during the quarter Ofsil is no longer the holding company of Freegold.

**PRODUCTION**  
As a result of a tornado which struck parts of Welkom on March 30 1990 some of the shafts and plants were without full electrical power for several days. As a consequence, gold production was adversely affected and damage estimated at R40 million was sustained to houses and surface installations.

### Abridged preliminary profit announcements for the twelve months ended March 31 1990

#### Ofsil

Issued Capital: 22 514 094 ordinary shares of one cent each

	Twelve months ended Mar. 1990	Twelve months ended Mar. 1989 (Audited)
<b>Income from listed associate (1989: subsidiary) company</b>	<b>173.3</b>	<b>258.6</b>
Profit before taxation	173.1	257.9
Taxation	0.1	0.1
Profit after taxation	173.0	257.8
<b>Dividends – interim of 390 (1989: first interim – 311) cents per share paid on December 15 1989 – 1989: second interim – 418 cents per share – final 378 (1989: 416) cents per share payable on or about June 15 1990</b>	<b>85.1</b>	<b>93.6</b>
<b>Increase in retained profit</b>	<b>0.1</b>	<b>0.1</b>
Earnings per share – cents	768	1 146

As a result of the issue of 540 916 new Freegold shares during the quarter ended March 31 1990, the company's interest in Freegold at March 31 1990 was 49.96 per cent (March 31 1989: 50.27 per cent). Ofsil is no longer the holding company of Freegold.

### Welkom

Issued Capital: 35 350 937 ordinary shares of 50 cents each

	Twelve months ended Mar. 1990	Twelve months ended Mar. 1989 (Audited)
<b>Income from listed investments</b>	<b>R000</b>	<b>R000</b>
Profit before taxation	70 703	105 320
Taxation	10	19
Profit after taxation	70 693	105 301
<b>Dividends – interim of 100 cents (1989: first interim – 80 cents per share (paid on December 15 1989) – 1989: second interim – 108 cents per share – final of 98 (1989: 108) cents per share payable on or about June 15 1990</b>	<b>33 351</b>	<b>28 281</b>
<b>Increase in retained profit</b>	<b>34 644</b>	<b>38 179</b>
Earnings per share – cents	199	296

### Dividend declarations

### Final dividends

On Thursday, April 19 1990, final dividends for the year ended March 31 1990 were declared in South African currency payable to holders of the following companies' ordinary and S ordinary shares:

Company	Dividend number	Cents per share
---------	-----------------	-----------------

Ergo	23	55
Freegold	70	145
Ofsil	9	378
Welkom	66	98

1990

Last day to register for dividends (and for changes of address or dividend instructions) Friday, May 11

Registers closed from to (inclusive) Saturday, May 12 to Saturday, May 26

Ex-dividend on Johannesburg and London stock exchanges Monday, May 14

Currency conversion date for sterling payments to shareholders paid from London Monday, May 14

Dividend warrants posted Thursday, June 14

Payment date of dividends on or about Friday, June 15

Rate of non-resident shareholders' tax 15 per cent

Share warrants to bearer

Holders of share warrants to bearer issued by Freegold and Ofsil are notified that their dividends are payable on or after Friday, June 15 1990, upon presentation of coupons marked "South Africa" and No. 9 on the side reflecting the share warrant number, at the offices of First National Bank of Southern Africa Limited, Stock Exchange Branch, Diagonal Street, Johannesburg, South Africa; Union Bank of Switzerland, Bahnhofstrasse 45, 8001 Zurich, Switzerland; Credit du Nord, 6 and 8 Boulevard Haussmann, 75009 Paris, France; and Banque Bruxelles Lambert, 24 Avenue Marnix, 1050 Brussels, Belgium, only. Coupons must be left at least four clear days for examination.

The full conditions relating to the dividends may be inspected at the Head and London offices of the companies and the transfer secretaries.

By order of the boards  
ANGLO AMERICAN CORPORATION OF SOUTH AFRICA LIMITED  
Secretaries  
per: C.R. Bull  
Senior Divisional Secretary

April 19 1990

Notes

1. Unless otherwise stated all results are unaudited.

2. The increase in share capitals during the quarter resulted from the issue of shares to Anglo American Corporation of South Africa (AAC) to finance the acquisition of AAC shares for distribution to employees who participate in The Anglo American Group Employee Shareholder Scheme.

3. All companies are incorporated in the Republic of South Africa.

4. The unabridged reports will be posted to members, debenture and option holders, and to persons on the mailing lists. Copies of the unabridged reports are available from the Transfer Secretaries and the Head and London Offices.

TRANSFER SECRETARIES

Consolidated Share Registrars Limited  
1st Floor, Edgars  
Johannesburg 2001  
(PO Box 61587,  
Marshalltown 2107)

Barclays Registrars Limited  
6 Grosvenor Place  
London SW1P 1PL

Johannesburg  
April 19 1990

HEAD OFFICE  
44 Main Street  
Johannesburg 2001  
(PO Box 61587,  
Marshalltown 2107)

LONDON OFFICE  
40 Holborn Viaduct  
London EC1P 1AJ





## WATMOUGHS (HOLDINGS) PLC

- High quality colour supplements, magazines, security and fine art printing achieved excellent growth.
- Varnicoat meets profit target and is successfully integrated into the Group.
- Long time association with Christies International leads to investment in their fine art printing company.

### Results for the year to 30th December

	1989	1988	
Profit before tax	£10.2m	£6.8m	Up 49%
Turnover	£86.3m	£59.9m	Up 44%
Earnings per share	35-65p	26-72p*	Up 33%
Dividend per share	10-25p	8-23p*	Up 25%

\* Adjusted for increased capital (1 for 4 rights issue)

Patrick Walker, Chairman, said:

'We believe that 1990 will be another year of opportunity and growth.'

The annual report and accounts have been posted to shareholders and copies are available from the Company Secretary, Watmoughs (Holdings) PLC, Jason House, Hiltam Road, Bradford, West Yorkshire BD2 1QN.

## UK COMPANY NEWS

### Higher margins and existing stores growth behind rise to £10.5m Wm Low meets City forecasts

By Maggie Urry

WM LOW, the Dundee-based food retailer which was recently in abortive discussions with Isosceles to buy a package of Gateway stores, has revealed first half profits at the top end of analysts' expectations.

In the 26 weeks to March 17, pre-tax profits were £10.5m, a 28 per cent increase over the previous £8.2m. Sales were 18 per cent up at £185m.

The profit gain came through strong volume growth in existing stores and higher margins. Mr Christopher Blake, chairman, said "current trading remains buoyant" and he expected "another successful year's results".

Mr James Millar, managing director, said the results were a continuation of the work the group had been doing and showed that even without having national scale "we can do the job".

He said that he was disappointed not to have bought

the package of 81 stores from Isosceles, some of which would have been sold on, but that the group had no plans to merge with another company.

Operating margins rose to 5.2 per cent in the first half of the previous year and 4.1 per cent in the year before that.

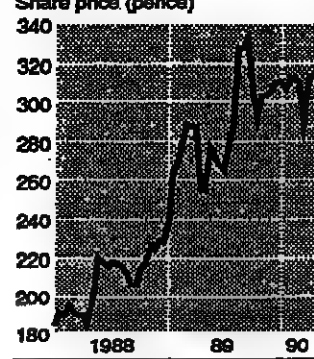
Mr Millar said that the same rate of growth in margins could not continue and that in future growth in turnover would be the driving force behind profit growth.

The group plans to spend £30m or more in each of the current and next financial years on developing new stores. This will "sustain our commitment to strong organic growth," said Mr Blake.

Of the 18 per cent sales rise, 8.7 per cent came from sales volume gains in like-for-like stores, with new stores contributing a further 4.3 per cent of sales growth, and inflation 5 per cent.

### William Low

Share price (pence)



Operating profits were 35 per cent up at £11.1m, but there was an interest charge of £590,000 (£360,000) of interest was capitalised.

Earnings per share, fully diluted, rose 31 per cent to 13.18p and the interim dividend is increased by 19 per

cent to 2.5p (2.1p).

### COMMENT

Low has again turned in some fine figures, but the market response seemed grudging, leaving the shares unchanged at 244p yesterday. However, the shares have risen 8 per cent or so since the talks with Isosceles broke down at the end of March and fears of a rights issue evaporated. While the market perceives a need for Low to take a big leap, it is nervous of Low actually making one. Low has plenty of growth to come from its ambitious store opening programme, although this will introduce gearing to the balance sheet, to the tune of about 30 per cent by the year end, and interest charges to the p and l account. And the days of repeated, large margin gains have to be coming to an end. Even so a prospective p/e of around 11.7 on a pre-tax forecast of £21.3m (£17.8m), is hardly excessive.

## Listing and rights for Northern Investors

By Ian Hamilton Fazey, Northern Correspondent

NORTHERN INVESTORS, the successful regional venture capital fund set up in Newcastle-upon-Tyne in 1984, is to be introduced to the Stock Exchange next Wednesday.

Dealings will start a week today.

The company already has 120 shareholders and does not need to invite subscriptions.

The full listing will be immediately followed by a one-for-two rights issue aimed at raising a net £2.3m for further investment in unquoted companies in the north-east.

The 1.25m new shares will be offered at 200p and most institutional shareholders have already told Wise Speke, the stockbroker underwriting the issue, that they will take up their rights.

Leading shareholders include British Gas, ICI, Vaux Group, South Tyneside and Cleveland County council pension funds, and Cookson.

Most of the 70 private investors are Wise Speke clients.

Northern Investors started with £25m of share capital raised mainly from locally-based companies, pension funds, other institutions and private investors. Mr Michael Denny, formerly regional director of the National Enterprise Board, became managing director.

By the end of March this year net assets had grown to £7m and included investments in 31 companies.

The compound pre-tax internal rate of return on long-term investments has been about 25 per cent a year during the company's lifetime.

Northern Investors will be classed as an investment company by the Stock Exchange but will have investment trust status with the Inland Revenue so that it will have no tax liability on gains from future realisations of investments.

The flotation is a northern milestone in the development of regional venture capital funds in Britain, which hardly existed in 1984. Sunlit, a Birmingham fund, has already floated.

## Great Southern advances to £3.5m

IN SPITE of the mortality rate being below expectations throughout most of 1989, Great Southern Group lifted pre-tax profits from £3m to £3.5m for the year.

Turnover of this USM-quoted funeral director rose 19 per cent to £22.13m (£18.61m) while trading profit surged 40 per cent to £4.92m (£3.51m), with margins increasing significantly to 22.2 per cent (18.8 per cent).

Mr James Smillie, chairman, said funeral services provided £3.57m (£2.07m) of operating profit, ancillary services £339,000 (£453,000), and crematoria and cemeteries £1m (£381,000).

The interest charge was up 84 per cent to £1.57m. Borrowings were some £3m higher than anticipated, but market conditions permitting, property disposals in hand or available through further rationalisation

should contribute to the reduction this year, Mr Smillie claimed.

Adverse market conditions prevented the placing of shares to raise the £2m deferred consideration for TR Sanders, and that had to be met by cash. The Richmond Hill property had not yet been sold for residential development.

Trading levels since December had increased significantly - due partly to the more nor-

mal mortality rate - but also to the benefit of further margin improvements in the core and acquired businesses.

Chosen Heritage, the pre-arranged funeral scheme, had sold a total of 21,000 plans with a face value of over £13m.

Earnings came to 18.5p (15.6p or 19.1p including exceptional item).

The final dividend is 5.4p for a total of 8p (7p).

### NEWS DIGEST

## Liberty up nearly £1m to £7.42m

A SUCCESSFUL year in converting and wholesaling enabled Liberty to raise pre-tax profits by nearly £1m to £7.42m in the 12 months to January 27 1990.

That success offset reduced profit in UK retailing, which was affected by disruption to transport services and the economic climate, directors said.

The division's trading profit dropped to £1.96m (£2.82m) on turnover 12.5 per cent ahead at £52.6m, some 4 per cent of which came from new branches.

Group turnover rose 17 per cent to £85.16m (£72.76m). Earnings worked through at 26.32p (£24.39p) and the final dividend is 4.55p for a total of 5.55p (£5.04p).

Trading profit in converting and wholesaling moved up to £4.64m (£3.37m). Exports from the UK rose 38 per cent; in its first full year Liberty Japan produced excellent results.

Printing contributed £926,000 (£539,000). Fabric printing in France improved substantially. Demand for printing and dyeing was strong throughout the year.

In the current year retail sales and orders in the wholesale and printing companies had shown an encouraging improvement, directors said.

## Silvermines more than doubles to £17m

Although Silvermines Group increased manufacturing earnings by 35 per cent in 1989, an upsurge in investment income more than doubled the overall pre-tax profit from £3.22m to £7.7m (£6.82m).

Investment income came to £4.73m (£2.48m), the main contribution stemming from the sale of the shareholding in Tuskar Resources. Operating profit in engineering and electronics rose to £5.76m (£4.26m).

Mr John O'Neill, chairman, said in the current year order

intake and invoiced sales for manufacturing were ahead of expectations, and showed a significant increase over 1988 for the first quarter.

The acquisition of Muirhead Vetric Components effectively doubled the size of the electrical and electronic division and was expected to make a significant contribution.

Income from property and developments through the Newport subsidiaries should further enhance profit.

Earnings for 1989 increased to 19.51p (£9.87p). The dividend is held at 4p with a final of 2.5p.

## Miskin checked by property slowdown

Miskin Group, the property and transport services group which came to the USM a year ago, achieved a 14 per cent improvement in pre-tax profits for the year to end-January 1990.

The increase, from £23,612 to £559,393, was achieved on lower turnover of £8.8m (£7.02m).

Directors said that the slow sales of residential property had affected the profit levels of that division and would do so particularly in the first half of the current year.

However, current prospects were favourable, they said, and it was anticipated that with the amount of work already contracted, turnover would increase considerably in the construction and building division.

As forecast, a final dividend of 1.375p is proposed. Earnings per share fell from 6.9p to 4.5p or from 5.1p adjusted for losses brought forward and recoverable tax previously written off.

## Emess chairman's earnings rise 48%

Emess, the lighting and electrical accessories group, paid Mr Michael Meyer, chairman, £152,000 in 1989, 46 per cent more than the £103,000 he received in the previous year.

The company's pre-tax profits rose by 24 per cent in 1989, but earnings per share increased by only 1 per cent.

## S Daniels confident despite bigger loss

S Daniels, a supplier of food and drink products, is confident of a change in its fortunes for the current year after reporting an increased deficit in 1989.

The pre-tax loss rose from £281,000 to £490,000, on turnover up to £38.21m (£36.68m).

Mr Paul Daniels, chairman, said the restructuring of the group was now largely complete with ingredients and retail supplies as its two principal trading divisions.

With an increased contribution from new businesses and a strong balance sheet, he was confident that 1990 would bring a turnaround in results after two extremely difficult years.

In view of the confidence in the changed group, the final dividend is held at 1.5p for an unchanged total of 2.5p. Losses per share rose to 5.5p (£2.34p).

Trading conditions for traditional businesses remained as difficult as in 1988. But the board implemented the first stages of the strategic plan to end the poor performance of some group operations and move into related higher margin areas.

The most significant step was the sale of the canned food division which gave an extraordinary profit of £2.7m. It also led to an improvement of over 25m to the cash position and significantly enhanced the balance sheet.

In September 1988 Daniels acquired Kinnaird & Baiter, a bakery ingredients supplier, and the chairman said profits increased substantially, more than fulfilling expectations.

In February this year Kandyman, a supplier of plc "mix" confectionery services, was purchased and was expected to provide significant profit growth.

## FKI spends £6m on further expansion

FKI, the Halifax-based electrical equipment and engineering group, has acquired Columbia International for some £6m in cash and loan notes.

This is its fifth recent acquisition. Together, they have annual aggregate sales of £20m and will all be contributing to profits by the second half of this year.

### PUBLIC WORKS LOAN BOARD RATES

Term	By 1991	By 1992	By 1993	By 1994	By 1995
1 month	14%	14%	14%	14%	14%
Over 1 up to 2	14%	14%	14%	14%	14%
Over 2 up to 3	14%	14%	14%	14%	14%
Over 3 up to 4	14%	14%	14%	14%	14%
Over 4 up to 5	14%	14%	14%	14%	14%
Over 5 up to 6	13%	13%	13%	14%	14%
Over 6 up to 7	13%	13%	13%	14%	14%
Over 7 up to 8	13%	13%	13%	14%	14%
Over 8 up to 9	13%	13%	13%	14%	14%
Over 9 up to 10	13%	13%	13%	14%	14%
Over 10 up to 15	13%	13%	13%	14%	14%
Over 15 up to 25	12%	12%	11%	13%	12%
Over 25	12%	11%	11%	12%	12%

\* Non-quota loans B are 1 per cent higher in each case than non-quota loans A. † Equal instalments of principal. ‡ Repayment by half-yearly annuity (fixed equal half-yearly payments to include principal and interest). § With half-yearly payments of interest only.

## DSM

for the information of the shareholders of  
**Naamloze Vennootschap DSM**  
Incorporated in Heerlen, the Netherlands

Dividend 1989

Notice is hereby given to shareholders that a dividend for the year 1989 of NLG 8.00 per share of NLG 20.00 nominal will be paid as from 2nd May, 1990 against presentation of coupon no. 2. An interim dividend of NLG 1.60 per share of NLG 20.00 nominal has already been declared and was payable from 31st August, 1989.

All dividends will be subject to deduction of withholding tax of 25%. Coupon no. 2 may be presented as from 2nd May, 1990 at the office of the Company's Paying Agent in the United Kingdom:

S.G. Warburg & Co, Ltd.  
Paying Agency,  
1, Finsbury Avenue,  
London EC2M 2PA

from whom claim forms may be obtained.

United Kingdom Income Tax will be deducted at the rate of 10% unless claims are accompanied by an affidavit.

Withholding tax deducted in excess of 15% is recoverable by United Kingdom residents. The Company's United Kingdom Paying Agent will, upon request, provide the appropriate form for such recovery.

Board of Management  
Heerlen, April 18th, 1990

## FLEMING JAPAN FUND Société d'Investissement à Capital Variable Registered Office: 45, rue des Scllars, Howald Luxembourg R.C. Luxembourg B 8392

The shareholders are hereby convened to attend the ANNUAL GENERAL MEETING to be held on Wednesday, 9 May 1990 at 3.00 pm at the registered office of the company, with the following agenda:

1. Submission of the reports of the Board of Directors and of the Auditors.
2. Approval of the financial statements for the year ended 31 December 1989.
3. Discharge of the Directors and of the Auditors in respect of their duties carried out for the year ended 31 December 1989.
4. Election of Directors and the Auditors for a new term of one year.
5. Directors' remuneration.
6. Miscellaneous business as may properly come before the Meeting.

Resolution of the agenda of the Annual General Meeting will require no quorum and will be taken at the majority of the shareholders present or represented.

In order to be valid proxy forms duly completed must be received at the registered office on 4 May 1990 at 5.00 pm at the latest.

## SUNBELT HOLDINGS S.A.

Registered Office: 3 Rue Pierre d'Aspet  
1142 Luxembourg  
R.C. Luxembourg B 18113

### NOTICE TO THE SHAREHOLDERS

Following publications of 3rd and 12th January 1990 and the Extraordinary General Meeting of 22nd January 1990 of the shareholders when it was resolved to apply for a delisting of the company's shares from the Luxembourg Stock Exchange, notice is hereby given to shareholders that delisting will become effective at close of business on Friday 27th April. During a period of one year thereafter shareholders wishing to sell their shares may, but not must, refer to the company for assistance in finding a purchaser.

The Board of Directors.

## IDEC IZUMI CORPORATION

U.S.\$35,000,000 2 3/8 per cent. Guaranteed Bonds Due 1992  
with Warrants

to subscribe for shares of the common stock of IDEC IZUMI CORPORATION Pursuant to Clause 4 of the Instrument and Condition 11 of the Terms and Conditions of the Warrants, we hereby notify as follows:

1. The Board of Directors authorized on March 30, 1990 to effect a free distribution of shares at the rate of 0.1 new shares of each one share held as of April 20, 1990 Tokyo Time (the record date).
2. Accordingly, the subscription price of the above mentioned Warrants, as given effect to the carried forward decrease in the subscription price of less than one yen, will be adjusted pursuant to Clause 3 of the Instrument and Condition 7 of the Terms and Conditions of the Warrants effective as from April 21, 1990 Tokyo Time.

Subscription Price before adjustment Yen 1,053.60  
Subscription Price after adjustment Yen 957.50

### IDEC IZUMI CORPORATION

10-40, Mikunihonmachi 1-chome, Yodogawa-ku, Osaka 532, Japan

April 20, 1990



## UK COMPANY NEWS

## Losses cut to £2.42m and profits expected in 1991 Midland & Scottish calls for £149m to fund buy

By David Thomas, Resources Editor

MIDLAND & Scottish Resources, the loss-making USM-quoted oil production company, is raising £149.2m by a rights issue to acquire the world's largest floating oil production facility.

The announcement was made at the same time as reporting an after-tax loss for 1989 of £2.42m on turnover of £735.0m. That compared with a loss in 1988 of £10.5m on turnover of £1.28m.

Prices of both classes of shares closed at 178p, down 22p on the day. The acquisition will be achieved by the purchase of Tortin Investments Limited, a Guernsey-based company in which four of Midland & Scottish directors have a 68.3 per cent interest. Midland is paying a maximum £155.9m, of which £130.5m will be in cash and the balance in non-interest-bearing convertible loans.

Six of Midland's eight directors have either a direct or indirect interest in Tortin and have not taken part in board discussions of the acquisition.

The rights issue is unusually large for a relatively small company, while the structure of the deal is exceptionally complicated. "It's a very

unusual deal, but then it's a very unusual company," one of Midland's financial advisers said.

Midland is raising the cash by an issue on the basis of 11 new shares for 10 held. The balance of £23.3m not used for the acquisition will be used for working capital.

Four directors who own 49.4 per cent of Midland & Scottish through a private company, Midland & Scottish Group, have agreed to subscribe to the rights issue. No information was available last night on whether British & Commonwealth Holdings, which holds 18.8 per cent, would subscribe.

However, Mr John Gunn, chief executive of B&C and a director of Midland, is subscribing for his relatively small entitlement.

Midland has one main asset at present, a 44 per cent interest in the Emerald field in the North Sea and the All Baba, a floating oil production facility, which is developing the Emerald field.

The acquisition of Tortin is intended to give it another asset similar to the All Baba. These floating oil facilities are seen by some observers as central to attempts to boost the development of marginal oil

fields in the North Sea.

Tortin has one main asset, a contract with Financieri, the Italian state shipbuilding company, to build a semi-submersible floating production facility capable of processing 100,000 barrels of oil and handling 130m cubic feet of gas a day. The facility, which is being built in Genoa, is scheduled for delivery in September 1992. The contract has been valued at £142m.

During 1989 Emerald development costs of £27.7m were capitalised, as will development costs incurred this year. Oil from Emerald will not flow until towards the end of 1990, after which Midland hopes to move into profit.

The company cannot pay dividends without the consent of the banks which funded the Emerald development and also of the Department of Trade and Industry which guaranteed the loans of the All Baba conversion.

It assumed its present form in January last year, resulting from Midland & Scottish Group's taking a controlling stake in the Emerald field, an offshore drilling contractor, the shares of which had been suspended on the USM for almost two years.

## Pearson chairman receives 55% rise

By Clay Harris

LORD BLAKENHAM, chairman and chief executive of Pearson, the conglomerate which owns the Financial Times, was paid £465,000 last year, a 55 per cent increase over the £299,000 he received in 1988. Pearson said a large, but unspecified element of the rise was performance-linked.

Meanwhile, Mr Jonathan Taylor, chief executive of Booker, took a pay cut of nearly £80,000 in 1989 because the agribusiness and health products group only barely improved earnings per share.

Pearson directors' bonus payments are also linked to growth in earnings per share. The board's remuneration committee sets a target at the beginning of each financial year based on the outlook for the economy and the company. If it is exceeded, directors receive additional pay.

In 1989, Pearson's earnings rose by 20 per cent to 67p.

Other directors also benefited from large rises. The next three highest paid directors after Lord Blakenham received between £385,000 and £400,000 each, against a range of £230,000 to £295,000 in 1988.

At Booker, Mr Taylor's salary fell from £223,415 to £178,791 because he received no performance-related pay. Normally, up to 60 per cent of his salary can be composed of bonus payments linked to growth targets in earnings and pre-tax profits.

Booker's profits went up by 15 per cent to £90.5m and earnings by less than 1½ per cent to 37.1p. Both increases fell short of the threshold required to trigger the bonus.

## BOARD MEETINGS

TODAY  
Telecom: British Empire Securities & General Trust, International Investment Trust Company of Jersey.  
Pearle: Barry Sheppard, Children's Medical Charity Investment Trust, Furness Securities, Gwynedd Investment Trust, Kelson, Polymark International.

Future Meetings  
Telecom: Universal Int'l Tel. Apr. 20  
Apple: Apple Computer May 17  
Acquisition: May 27  
Bentley: Bentley Motor Apr. 27  
Group: Group Control May 1  
Control: Control Continental May 1  
Pearle: Pearle Compagnie Apr. 23  
Pearle: Pearle Compagnie Apr. 23  
Pearle: Pearle Compagnie Apr. 23  
Pearle: Pearle Compagnie Apr. 23

## Acquisitions boost Albert Fisher

By Clare Pearson

ANOTHER STRING of acquisitions helped Albert Fisher Group, the food distributor and processor, lift pre-tax profits by 53 per cent, from £19.95m to £30.5m, in the six months to February 28 1990. Underlying organic growth was 23.6 per cent.

Fisher mounted an unusually structured £180m rights issue and placing towards the end of the half-year, which left it with about £50m net cash for further acquisitions and product development.

It was underwritten by Corporate Partners, a US investment fund, which also took 5.01 per cent of the shares.

The arrangement prompted criticism from some shareholders. But Mr Tony Millar, chairman, said yesterday: "It has now been recognised that we did something different for a good reason" which was to raise the funds without risking the vagaries of short-term market fluctuations.

Mr Millar said one of Fisher's current priorities was to build up business in better-margin value-added products in the US. These, chiefly pre-cut salads, accounted for only 10 per cent of US sales while in

Europe value-added products made up about 60 per cent.

In Europe, Fisher was keen to extend the range of products made by Holco, a West German company acquired in January which processes asparagus and mushrooms.

Mr Millar said companies acquired during the half-year all made useful contributions. On a like-for-like basis, European businesses produced profits of £18.43m (£15.3m) on turnover of £27.52m (£26.49m). North America made £12.02m (£9.81m) on sales of £22.15m (£20.11m). Head office expenses took £80.00m (£30.00m).

European fresh produce businesses made £5.34m (£4.55m). There was some shortfall in fruit sourced from Spain because of heavy rains in citrus growing areas. Food processing and distribution contributed £13.09m (£10.75m). Within this, there was some pressure on margins in UK frozen food operations.

In North America there was a good recovery at Ziff, the paper and plastics subsidiary, after staff cutting and reorganisation measures last year.



Tony Millar, left, with Ian Quinlan, finance director: unusual rights issue left group with £50m for continued expansion

Group turnover expanded by 35 per cent at £496.64m (£368.95m). Earnings per share rose from an adjusted 3.72p to 4.59p, and the interim dividend is stepped up from 1.25p to 1.5p. See Lex

## CRH in joint venture for US glass business

By Andrew Taylor, Construction Correspondent

CRH, the international buildings materials group and one of the Irish Republic's biggest companies, has joined with a group of Georgia investors to pay \$100m (£61m) for a half share in a US architectural glass business.

The 50 per cent holding has been acquired in the architectural glass division of HGP Industries, which operates in 13 states.

The stake has been acquired by Oldcastle, a CRH subsidiary, and Georgia Investors, a private family investment group.

The Irish group put up \$30m of the purchase price which includes warrants to allow the group to increase its half share in the 50 per cent stake.

The remainder of money, except for \$1m from Georgia Investors, has been provided

by bank borrowing at interest rates currently at 11 per cent.

CRH said the acquisition, substantially financed by non-recourse debt, was expected to make a positive contribution to earnings in the current year.

Last year, the US had accounted for just over a quarter of the group's pre-tax profits of £280.57m. HGP has about 12 per cent of the \$800m US architectural market which includes security glass.

Mr Don Godson, chief executive of Oldcastle, said "HGP provides a significant presence in a construction materials sector which is less cyclical and provides better access to higher value-added repair maintenance and improvement markets than many of our existing businesses."

## All-round improvement lifts Crean to £21.55m

JAMES CREAN, the Dublin-based industrial holding company with interests in electrical products, aircraft leasing and food and beverages, yesterday announced a 28 per cent increase in profits for 1989.

Directors said that all the group's principal subsidiaries, including Inshtech, had produced satisfactory sales and profits performance, as did International Aircraft Services, in which the group holds 35.67 per cent.

At the pre-tax level group profits rose from £16.87m to

£21.55m (£21.03m) derived from external sales of £164m (£134.8m). Income from related companies £4.66m (£4.7m). After tax of £13.94m (£12.28m) and minorities of £743,000 this time, fully diluted earnings per share came out at 53.3p (£47.5p).

There was an extraordinary debit of £113,000 (£269,000) and a goodwill charge of £1.01m (£239,000), which has been excluded from the earnings calculation.

The proposed final dividend of 10.475p makes a total for the year of 17.825p (£15.125p).

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## Banks help Astra in rescue deal

By Tim Dickson in Brussels and Jane Fuller in London

ASTRA Holdings, the munitions and fireworks maker, yesterday struck a surprise deal with Société Générale de Belgique to save PRB, the Belgian munitions maker which it bought last year, from almost certain bankruptcy.

The agreement involves formulating a new industrial plan for PRB in the context of a concordat, which offers temporary protection from creditors. PRB's two main banks have advanced new short-term credit facilities to keep the business afloat until May 4.

Yesterday's development buys time so that a detailed solution can be found and allows time to cool after a period of bitter allegations on all sides.

Astra bought PRB from the La Générale subsidiary Gechem last September, when it thought the company was going to make a £2m profit in 1989. It has since alleged that it incurred a £12m loss.

Belgium's commercial court yesterday gave its blessing to the concordat procedure, but will only give its final consent on the basis of plans to be drawn up by PRB in the next two weeks. These have to be agreed by two thirds of the creditors.

Assuming this is granted, Astra has agreed to drop its litigation threats.

PRB may well be hoping to find a partner to continue the business as a going concern, though a controlled break-up is

thought to be another option. La Générale made it clear that while it was willing to make a financial contribution to the rescue, it would not be taking a new equity stake in PRB.

Astra paid £1m for PRB's share capital and repaid more than £20m in inter-company debt.

Mr Roy Barber, chairman of Astra since early March, said the group would not have to pay out a penny more as a result of the agreement. He had, however, hoped to do better.

"I'm afraid a large part of the £21m has gone down the drain for the time being." This amount had been written off last month.

Call this number any time for a message from the Board of Vickers: 0839 700 940

# Vickers

## Shareholders - Support your Company

### The break-up is destructive

### Vote **AGAINST** IEP's proposals

RESOLUTIONS REQUISITIONED BY N.C.B. TRUST LIMITED,  
ON BEHALF OF IEP SECURITIES LIMITED,  
A SUBSIDIARY OF BRIERLEY INVESTMENTS LIMITED

8. That a proposal for a demerger of Rolls-Royce Motor Cars be formulated (Ordinary Resolution)
9. To amend the Articles of Association (Special Resolution)
10. To authorize the Company to make market purchases of its own shares (Special Resolution)
11. To repay and cancel the Preferred 5% Stock, the 5% Preference Stock and the Cumulative Preference Stock (Ordinary Resolution)
12. To request the Board to implement the market purchases referred to in Resolution 10 (Ordinary Resolution)

For ☐ Against ☒

YOUR PROXY CARD MUST BE RECEIVED BEFORE 11.00 a.m. TUESDAY, 24TH APRIL, 1990

\*Calls are charged at 25p per minute cheap rate and 38p per minute at all other times.  
The Directors of Vickers PLC are the persons responsible for this advertisement which has been approved by Lazard Brothers & Co., Limited, a member of The Securities Association. Those Directors confirm that to the best of their knowledge and belief, having taken all reasonable care to ensure that such is the case, the information contained in this advertisement is in accordance with the facts and does not omit anything likely to affect the import of such information. The Directors of Vickers PLC accept responsibility accordingly.

Vickers - Engineering Success

## SOLID GROWTH CONTINUES

Hunting Gate is one of the largest private groups in the United Kingdom engaged in commercial property development and investment, house building and design and build contracting.

### FINANCIAL HIGHLIGHTS

	1989 £m	1988 £m
turnover	104.4	103.6
shareholders' funds	32.5	27.5
pre-tax profits	6.6	7.2

"In the difficult trading conditions of 1989 Hunting Gate achieved a pre-tax profit of £6.6 million, slightly down from the £7.2 million for the previous year. Bearing in mind the dramatic downturn in the housing market, a slowing of demand for commercial properties and the generally excessively high interest rates, this is a result that reflects well on our management. Although the economic climate is less than promising, with a well-balanced spread of activities, I am confident that Hunting Gate will respond positively and continue its solid progress."

C.J. Baker  
Chairman

If you would like more information about Hunting Gate and to receive a copy of the 1989 Annual Report please write to:  
Hunting Gate Group  
Limited, 4 Hunting Gate, Hitchin, Herts SG4 0TB





# THE NORWEGIANS ARE GETTING STRONGER!

Bergen Bank (BB) and Den norske Creditbank (DnC) have now joined forces. The product of the merger – Den norske Bank – will be the largest banking group in Norway. The new bank will have a substantial presence in the domestic corporate and retail market as well as being represented in most of the important financial centres throughout the world. Internationally Den norske Bank will be particularly strong within foreign exchange trading and trade financing and will continue to develop its strong ties with the shipping and oil/gas clients.

Den norske Bank will be a member of the Scandinavian Banking Partners (SBP)

– one of the leading banking alliances in Europe.

TOM GRØNDAL, THE HEAD OF INTERNATIONAL DIVISION, DEPUTY MANAGING DIRECTOR

## LUXEMBOURG

DEN NORSKE BANK LUXEMBOURG S.A.  
21, BOULEVARD DU PRINCE HENRI  
L-1724 LUXEMBOURG  
P.O. Box 297  
L-2012 LUXEMBOURG  
TEL 352 21 101  
FAX 352 46 14 21 422  
TELEX GENERAL 1776  
TELEX FOREX 3503  
MANAGING DIRECTOR: WILLY WIK

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## UK COMPANY NEWS

## Managing director leaves after 20 years Major staff departures hit Ivory & Sime

By David Waller

THE MANAGING director, the investment director and four senior fund managers yesterday resigned from Ivory & Sime, the former stalwart of the Edinburgh investment management scene.

Mr David Ross, the managing director who has worked for Ivory & Sime for more than 20 years, is leaving with the four fund managers colleagues to set up an independent, unquoted Scottish investment management business.

Mr Graeme MacLennan, appointed as investment director just two years ago, is leaving for different reasons and the timing of his long-planned departure is a matter of convenience, according to Mr Richard Carswell, marketing director.

The abrupt departures will inevitably come as a blow to the credibility of a company which was beset by turmoil at the senior management level for most of the 1980s.

Rivals at other Edinburgh fund managers declared it "a sad day for Scotland".

Talking to the Financial Times only last month, Mr Ross was frank about the

company's past problems, acknowledging that pension fund money built up to £1bn between 1979 and 1985 fell to £500m between 1985 and 1988. He was then emphatic that management stability had been achieved at last.

Yesterday Mr Ross explained that over the week-end he had gone to speak to the four fund managers after hearing that they were planning to set up their own business.

His duty as managing director was to ask them to resign, he said. But they were good friends and the prospect of working for a private rather than a public company was enticing, so he asked to join them and earlier this week offered his resignation to the board along with the others.

He added that no Ivory & Sime clients had been contacted and the five would have to build the new business up from scratch.

Mr Carswell said that Mr MacLennan, who had himself defected from the nearby Edinburgh Fund Managers, had "never settled down" to his job as investment direc-

tor. According to Mr Carswell, this had been recognised some time ago by both Ivory & Sime and Mr MacLennan and it seemed sensible for him to leave at the same time as the others.

Mr Ross, who started at Ivory as an office boy, was appointed as the firm's first managing director in 1988.

Mr Carswell said yesterday that the company's investment strategy would be unchanged. Since 1988, the company has managed to rebuild its pension fund monies back to previous levels by the aggressive pursuit of overseas fund management business, a result of the company's novel strategy of buying overseas fund managers or opening its own offices overseas.

Mr Ross, who owns 8 per cent of the company's shares, said he had no intention of selling them.

Ivory & Sime is owned 25 per cent by Ensign Trust, 15 per cent by Sunitomo Life Assurance and some 30 per cent by staff. None of the other people departing has a significant stake.

## Avena raises terms for Runciman as holding nears 50%

By Clare Pearson

THE BID battle at Walter Runciman, the shipping and security equipment group, intensified yesterday when Avena, the Swedish diversified company, again increased the terms of its hostile offer and snapped up more shares in the market to bring its holding within sight of 50 per cent.

But Viscount Runciman, chairman, announced his company had started talks with a third party that might or might not lead to an improved offer being made.

Avena improved its cash offer, which is now final, by 65p to 800p per share. There is also a 3p dividend entitlement to value the company at about 263m. It now claims 46.7 per cent of the shares, including an 8.4 per cent block sold by Scottish Amicable Investment Managers yesterday.

The move by Scottish Amicable, a long-term investor, drew dismayed criticism from Viscount Runciman, who said it had made the sale before talking to him. He said "I was extremely surprised that they did not telephone me before they sold, as we had arranged."

Runciman urged its other shareholders to take no action while merger discussions with the third party, which might or might not lead to a higher offer, got underway. Viscount Runciman said an initial talk some weeks ago had only yesterday transformed itself into serious negotiations.

Avena's new terms mark its second improvement this week. Its original offer of 520p drew acceptance in respect of a less than 1 per cent of the shares, apart from those held by the National Rivers Authority. This investor was believed to the seller of a 4.4 per cent stake which was also sold to Avena yesterday.

Some 30 per cent of the shares in hands related in varying degrees of closeness to the founding Runciman family remain uncommitted. A 15.6 per cent stake is held by Runciman (Trustees) but the balance is in the hands of individual holders.

Viscount Runciman would not be drawn on the identity of the party but speculation focused on Scandinavian shipping companies with similar interests in the liquid gas carriers, which Runciman operates as part of the Unigas consortium.

## Sketchley breathes again as Compass takes the pressure off

By Andrew Bolger

SKETCHLEY, the beleaguered industrial services and cleaning group, last night escaped hostile takeover for the second time within seven weeks after Compass Group effectively abandoned its bid.

Compass, the contract cleaning and services company, said it did not believe it would be in the interests of Compass shareholders to revise its £88m offer to a level which would be likely to receive the support of the major institutional shareholders of Sketchley.

With Compass's shares closing down 5p at 305p, its all-paper offer valued each Sketchley share at 244p. Shares in Sketchley had closed unchanged at 285p before the Compass announcement.

Godfrey Davis, the car dealing and laundry group, dramatically withdrew its £126m offer for Sketchley at the beginning of March after taking fright at its reduced profits forecast.

Sketchley shares had plunged 85p to 251p after Godfrey Davis withdrew its shares-and-cash offer, which dropped in value from 380p to 350p per share in the course of the bid.

Mr Gerry Robinson, chief executive of Compass, said last night: "Having studied Sketchley for some years we were



Gerry Robinson: acquisitions only on terms which are in own shareholders' interests

pass currently has." Sketchley defended itself against the Compass bid by announcing the appointment of a new management team that its advising merchant bank, NM Rothschild, negotiated with for two weeks. Mr Malcolm Glenn had his resignation as chairman of Sketchley accepted hours after the Compass bid was launched.

The new managers are Mr John Richardson, a former managing director of Bond Corporation (UK) and chief executive of Hong Kong-based Hutchison Whampoa, and Mr Tony Bloom, ex-chairman and chief executive of Premier Group Holdings of South Africa.

Sketchley's management reshuffle, which includes a conditional agreement to grant the new men a potentially lucrative share options package, was supported by institutions which between them spoke for 34 per cent of the company's shares.

Subject to shareholders' approval, both Mr Richardson and Mr Bloom will be granted options to subscribe for shares amounting to 2.5 per cent of Sketchley's issued share capital. At the maximum subscription price of 265p, these would be valued at some £4.8m.

## Hawtial Whiting motors back into the black

By John Griffiths

HAWTIAL WHITING Holdings, the Essex-based vehicle engineering consultancy group, yesterday announced a return to profitability in 1989 as turnover increased by more than 60 per cent.

Mr John Whitecross, chairman, reported pre-tax profits of £2.17m, against a loss of £262,000 in the previous 12 months. Turnover amounted to £49.7m (£20.88m).

Earnings per share emerged at 16.5p (losses of 11.4p). Mr Whitecross said that in view of the group's return to profitability it intended to pay a 4p dividend. A nominal dividend of 0.1p was paid for 1988.

He attributed the improved performance to growth in Hawtial's operations world-wide, but

with North America playing a significant part. The region now employs 45 per cent of the Hawtial work force.

The company believes it is now in a strong position to take advantage of one of the most significant trends in the vehicle industry - the reduction of new model cycle times from as much as seven years to as low as three years, as vehicle manufacturers come under increased pressure in the marketplace.

The increased frequency of the introduction of new models, and the greater variety of vehicles also expected to be produced, is expected to provide an increasingly powerful boost to the engineering consultancy sector.

## Tilbury on acquisition trail with £8.85m deal

By Andrew Taylor, Construction Correspondent

TILBURY GROUP, the UK construction company, yesterday announced the first of several acquisitions which Mr Michael Bottler, its chief executive, has said the group is pursuing.

Tilbury, which last year defeated an unwelcome takeover bid from rival contractor Lilley, has acquired Clough Smith, a heavy electrical engineering contractor, for £7.75m.

Tilbury has agreed to pay

another £1.1m for land and buildings part of which are leased and occupied by Clough.

Earlier this month, Tilbury said it was pursuing several acquisitions including one on the Continent. Clough Smith last year made pre-tax profits of £1.1m on sales of £13.9m. Net assets in the last accounts were valued at £2.3m.

Tilbury's pre-tax profits last year increased by 87 per cent from £14.6m to £27.46m.

## DIVIDENDS ANNOUNCED

	Current payment	Date of payment	Corresponding dividend	Total for year	Total last year
Crown (James) ♦	10.4785	June 1	9.3125	17.6285	15.8125
Daniels (S) ♦	1.25	May 31	1.25	2.5	2.5
Drayton Const Tel	4.25	July 9	3.75	8	15
Fisher (Albert) ♦	1.51	July 9	1.25	2.75	2.75
Frost Group ♦	7.75	June 8	5.25	13	8.25
Gt Southern S ♦	5.4	June 8	4.7	10.1	7
Hawtial Whiting ♦	4	Aug 12	0.1	4.1	4.1
Int Business Com ♦	5	June 8	2.8	7.8	4.1
Liberty ♦	4.25	July 10	3.3	7.55	4.75
Low (Wm) ♦	4.55	May 31	4	8.55	5.04
Machin S ♦	2.5	June 4	2.1	4.6	8.5
Rockingham ♦	1.375	July 2	1.375	2.75	2.5
Sherwin ♦	2.51	July 2	2.5	5	4

Dividends shown pence per share net except where otherwise stated. ♦Equivalent after allowing for scrip issue. †On capital increased by rights and/or acquisition issues. \$USM stock. ♦Irish currency throughout.

## IN BRIEF

NORBAIN ELECTRONICS has conditionally agreed to acquire SEE, a distributor of closed-circuit television equipment for a maximum £1.49m cash. In the year to end-September, SEE achieved taxable profits of £282,000 on sales of £2.7m. Net assets were £133,000.

REALLY USEFUL Group, Offer by Jorranen to acquire shares not already owned by it has been validly accepted by holders of 3.21m RUG ordinary (9.7 per cent). Jorranen now owns 29.73m (89.5 per cent) RUG shares, including those owned by Mr Andrew Lloyd Webber.

VIRROPLANT has sold the waste disposal assets of Bath Plant Holdings to Drinkwater Sabey, a subsidiary of Aitwoods, for £2.35m cash plus the assumption of approximately £220,000 of finance lease obligations.

WATERGLADE INTERNATIONAL Holdings has acquired a freehold office building in Oporto, Portugal, for £540m. The building, comprising 500 sq m, is located opposite the Portuguese Stock Exchange. Company has also announced sale of two office buildings in Amsterdam to a local private company for £1.85m.

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ROLLS-ROYCE MOTORS Managing Director, Peter Ward

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YAMAUCHI SECURITIES  
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Trust Company  
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Dated: April 20, 1990



COMMODITIES AND AGRICULTURE

Opec emergency meeting decision lifts oil prices

By Steven Butler

OIL PRICES staged a strong recovery yesterday after an announcement that the Organisation of Petroleum Exporting Countries would hold an emergency ministerial meeting on May 2 in an attempt to lift prices.

Mr Sadek Boussena, the Algerian minister who is Opec's president, said that the oil ministers would meet to examine steps to take to arrest the degradation of the market and to restore prices to the Opec level.

Mr Boussena is evidently referring to the \$18 reference price for an average of select Opec crudes, which are now going for closer to \$15. Prices have been driven down by a rise in oil stocks and a huge surplus of oil heading for market from the Middle East.

Announcement of the emergency conference came after Wednesday's steep fall in prices following a meeting between the oil ministers of Saudi Arabia, Kuwait, and the United Arab Emirates. Although the meeting produced vague pledges from Kuwait and the UAE to cut output, markets were unconvinced any significant action

would be taken. After yesterday's announcement, however, markets more than regained Wednesday's losses.

North Sea Brent crude for June delivery finished the day up 82¢ cents at \$17.12, in European trading. On the New York Mercantile Exchange, where prices have been most volatile, June futures for West Texas Intermediate crude were up 70 cents to \$18.79 in midday trading.

Prices had begun to rise in advance of the Opec announcement on unconfirmed rumours that Saudi Arabia was about to make a large cut in its oil output. Saudi Arabia, Kuwait, and the UAE are each producing far more than their agreed Opec quotas.

The May 2 meeting, to be held in Geneva, is formally of Opec's eight-member market monitoring committee. However, all 13 Opec members are planning to attend the meeting, which could take action to adjust Opec prices or production volumes.

The scheduled May 26 regular conference of Opec ministers has been postponed to June 30.

Malaysia agrees to join cocoa producers' group

By Lim Siong Hoon in Kuala Lumpur

MALAYSIA, the world's fourth biggest cocoa producer, has agreed to join the Cocoa Producers' Alliance (CPA), it is still considering the possibility of joining the International Cocoa Organisation (ICCO).

The CPA appears to be more important to Malaysia. Joining it will give political goodwill for Malaysia and provides it with a forum for discussions about a new ICCO agreement.

Mr Lim Keng Yik, Malaysia's primary industries minister, earlier this month visited the Ivory Coast, the world's biggest cocoa producer, and Ghana, where he said he would recommend Malaysian participation in the international cocoa agreement to his government. Mr Lim said, however, to be in no hurry to submit this recommendation.

"I'm not making a U-turn," he said, adding that further discussions with the local

cocoa industry were required. Underneath Malaysia's procrastination over the ICCO lies its conviction that the two-year extension on the agreement provides only a temporary reprieve in a depressed market.

Eventually, Mr Lim said, producers might have to act among themselves to remove the cocoa surplus by cuts in production and exports.

The extended cocoa agreement contains no economic provisions. This might make Malaysia's participation easier, but it also made its membership academic, said Mr Lim.

He has asked CPA members to hold their next meeting in Kuala Lumpur.

Malaysian cocoa production for the year to last September rose by 18 per cent from the previous year to 280,000 tonnes, according to estimates by the government's Federal Agricultural and Marketing Authority.

Brazil to resume its world sales of coffee

By John Barham in Sao Paulo

BRAZIL is to resume coffee exports today, after a month's suspension. Ms Zeila Cardoso de Mello, the Economy Minister, approved on Wednesday new policies to deregulate coffee exports and eliminate export taxes.

Most farmers and traders approved of the changes, saying a free market would reward efficiency and reduce the burden of red tape. "Brazil is one of the few countries that can produce coffee without needing government intervention, because we produce coffee in great volumes with considerable quality," said Mr Isaac Ferreira Leite, president of the Guaxupé co-operative.

Under the new rules, coffee will be treated like Brazil's other commodity exports, such as orange juice or soyabean, which are regulated by a department of the Economy Ministry. The government merely ensures that companies' declared export prices are in line with the international and domestic markets, to prevent exchange fraud.

Coffee shipments virtually halted after the new government imposed drastic anti-inflation measures on March 16. The same day, it decreed the closure of the Brazilian Coffee Institute (IBC), the agency that regulated coffee trading, throwing the market into limbo.

Exports were also blocked by a sudden revaluation of the Brazilian cruzeiro, although the Central Bank has now allowed the currency to float down by 17 per cent, making exports profitable again.

IBC used to regulate coffee prices, quality and export volumes carefully. It charged a 6 per cent export tax to finance buffer stocks, which now stand at 17m bags (60kps).

Brazil's Ministry of Agriculture will probably become responsible for domestic coffee, such as establishing support prices and financing. A separate department is to monitor domestic prices and supplies and manage stocks.

Government regulation became increasingly unnecessary with the collapse last July of the international coffee agreement. The imposition of a free domestic market in Brazil, the largest coffee producer, will make it all the more difficult to revive the agreement, which fixed world prices and trade quotas for each coffee producing country.

Although producers complain that prices are still too low, traders are optimistic that free market conditions favour Brazil. Strangely, in a country

Soviet payment problems worry grain trade

By Bridget Bloom, Agriculture Correspondent

REPORTS THAT the Soviet Union is seriously behind in payments for western grain imports have provoked a flurry of official "no comments" from the international grain trade.

"It's a very sensitive subject," said one executive confidentially yesterday. He added - off the record - that what was happening should probably be seen as the "typical fall-out from perestroika" rather than a Soviet cash crisis which could have long-term effects on the grain trade.

Secrecy makes it difficult to establish the facts with certainty. However, what seems to have happened is that the big US grain trading companies - including Continental, Cargill and Louis Dreyfus - earlier this month decided not to sell to the USSR because Moscow had not paid up on earlier contracts.

Smaller companies, however, presumably with less outstanding credit, did contract some sales. Figures of 300,000 tonnes of wheat sold by the US-based Mitsubishi International among others are quoted, together with 1.7m tonnes of

coarse grains.

In the last 12-15 months as a consequence of economic restructuring, the Soviet Union has shifted from buying grain for cash - raised through credit lines within the internal Soviet system - to seeking credit, usually of 120 days, from the sellers. The suggestion is that Moscow may be behind on these payments to the big companies to the tune of \$500m and that this has provoked them to decline further sales until the backlog is sorted out.

According to figures from the International Wheat Council, western grain sales to the USSR have 30 per cent of the 1989-90 year (ending June 30) of which just over 12m tonnes is wheat and around 19m tonnes comprises coarse grains (including maize and other seed grains).

The EC has contracted to sell about 4.3m tonnes of wheat and 3m tonnes of coarse grains and is not apparently involved in the current credit affair. The main difficulties for the EC are centred on timing in availability of Soviet shipping

with EC rules governing export subsidies on the sales.

Soviet ships have been slow in arriving from Baltic ports and the EC Commission has thus reluctantly extended its export restitutions beyond their traditional one month

as its non-agricultural exports, while last year (1988-89) US agricultural exports to the USSR totalled \$3.3bn.

Traders differ over the reasons for the current problems and thus their potential severity. The prevailing view seems to be that perestroika, involving the restructuring of the Soviet economy, has ruptured previously well-established bureaucratic procedures. Under these, Exportkhleb, the Soviet grain buying agency, was provided by the Soviet Bank of Foreign Trade with promissory notes for sales.

Since the big western companies have apparently not received those promissory notes they have for the time being stopped sales, but feel that the problem is bureaucratic and will be sorted out.

As Mr Leonard Alderson, chairman of the board of Cargill International, put it from Geneva yesterday, "our business with the Soviet Union has perhaps been slow for a time because of payment problems." However, noting an improvement in the situation in the past 10 days during which

some (unspecified) sales had been made, Mr Alderson said that the company's 26 years' experience of trading with the USSR had led it to hope that "these problems will soon be a thing of the past."

Yet others point to the possibility of a longer-term Soviet cash crisis. They point to speculation that the reason for the recent drop in the price of gold (which was attributed to sales by Saudi Arabia) was in fact Soviet gold sales, the proceeds from which were needed to keep Soviet imports afloat.

Whatever the reasons, western traders seem agreed on one thing: the Soviet Union's need for external credit is likely to increase rather than decline. They are thus anxious to see the successful conclusion of the current negotiations between the US and the USSR.

These talks, which have already produced agreement on a new long term grain accord, are intended to result in Moscow receiving most favoured nation status, which in turn would make the country for the first time eligible for US Government credits.

Swedish farmers face an icy blast

Robert Taylor on plans to get rid of subsidies on food production

SWEDISH CONSUMERS, served by a heavily subsidised and regulated agricultural sector, suffer the highest food prices in the western world, except for the Norwegians. Yet the country's agriculture is about to be reformed, despite stiff resistance from many of its farmers.

Mr Mats Hellstrom, the Minister of Agriculture in Sweden's minority Social Democratic government, will next Monday unveil the final set of proposals designed to liberalise an outmoded system, based on the principle of self-sufficiency and dating back to the 1930s.

The primary recommendation is expected to be a five-year transition period, starting on July 1, for the eventual abolition of existing regulation of farm prices.

Agricultural protection in Sweden has long been criticised. A highly critical study published two years ago by the Paris-based Organisation for Economic Co-operation and Development claimed that the objective of maintaining a high level of agricultural production had imposed costs on the economy that had slowed growth.

More recently, it pointed out that the price differential between Sweden and other developed countries had worsened. Over the last 10 years, there has been a 116 per cent rise in Swedish food prices compared with an average 61 per cent increase in western Europe as a whole.

Strangely, in a country

whose people are highly organised, there has never been a vocal consumer movement with power to argue the case for cheap food and free trade.

Instead the farmers have managed to exercise great influence over the political system, particularly through their confederations with the small Centre party.

The main problem is that existing price controls have led to the accumulation of expensive surpluses - estimated in cereals, for example, at around 1m tonnes. Exporting the surplus has led to the subsidised by the Swedish taxpayer to ensure competitive prices.

In recent years, the Swedish government has calculated that the subsidies have cost from Skr2.5bn-Skr3bn (\$410m-\$492m) a year.

The government wants to adjust the system so that agricultural production is limited to meeting Swedish domestic needs, plus an amount that can be exported abroad without financial loss. If this were done, it has been estimated, at least 500,000 hectares of existing farm land would no longer be needed for food production.

It has also been calculated that grain prices would fall by 20 per cent, beef by 9 per cent, pork by 5 per cent and milk by 3 per cent. On the other hand, there would be a loss of jobs in agriculture.

An estimated 8,000 farmers out of a total of 70,000 would lose their livelihood on the land, with a further cut of 6,000

jobs in food processing, according to the government.

Only about 3 per cent of Swedes work in agriculture, which accounts for around 1.8 per cent of the country's gross domestic product. Only 7 per cent of the land is suitable for either arable farming or pasturing. However, much statistics underestimate the importance of agriculture to Sweden.

Many Swedes have an emotional commitment to the land, even if most live in a highly urbanised society. The industrial revolution arrived late in Sweden and most Swedes continue to maintain close rural roots through ownership of a family cottage.

As recently as 1985, the Swedish parliament continued to endorse an agricultural policy that stressed as its objective the protection of domestic production in peacetime and for possible emergencies. The declared aim has been to provide consumers with access to "food of high quality at reasonable prices." The opposite has been the result.

Opposition parties with a keen interest in the preservation of the countryside - like the Centre as well as the Greens and the Communists - temper any favourable view of a change in agricultural policy with a determination to ensure alternative sources of employment are available to those to be hit by structural change.

However, a wider strategy designed to support rural Sweden through a period of struc-

tural change does not mean that the forces against deregulation can hope to win a rear-guard action to protect the status quo. More radical elements in the ruling Social Democratic Party - particularly the liberal economists at the Ministry of Finance - would like to dismantle completely the whole protectionist system that insulates Swedish agriculture from international markets.

Next Monday's announcement should indicate just how far Mr Hellstrom is prepared to meet the conflicting pressures from various interest groups. Much will depend on how the Swedish Farmers' federation reacts to what he plans.

The Swedish government sees agricultural reform as an important ingredient in its wider strategy of making the country more efficient, more competitive and more open to market forces. At the moment, it is also grappling with one of the highest rates of inflation in the western world, a chronic balance of payments deficit and low growth.

It will not be easy, but putting the interests of consumers before those of the producers at once could help alleviate some of Sweden's underlying economic difficulties.

Many Swedes believe the time has come when their agriculture should be treated in the same way as their manufacturing industry and made to stand on its own feet free from state aid and financial support from overburdened taxpayers.

Clearing deal in US futures may set precedent

By Barbara Durr in Chicago

FOR the first time in the US futures industry, an exchange clearing house will contract out for another house to clear its trades. The New York Cotton Exchange's independent clearing house - the Commodity Clearing Corporation - has agreed to contract the clearing house of the Chicago Board of Trade.

Mr Roger Ruiz, president of the Board of Trade Clearing House, said: "This may lead to further common processing in the futures industry and make US markets even more efficient than our foreign competitors."

The step is expected to lower clearing costs for the Cotton Exchange, although details of the payments for Chicago's services have not yet been worked out.

Savings will come from the economy of scale at the Board of Trade Clearing Corporation, the industry's largest clearing house. It processes normally up to 700,000 contracts daily and the Cotton Exchange's comparatively low daily volume of some 20,000 or so, will not stretch its capacity, Mr Ruiz said.

The Board of Trade Clearing Corp already provides some other services to the industry, such as risk analysis and it serves as the processing agent for the inter-market information sharing system established shortly after the crash in 1987.

MARKET REPORT

COPPER prices retreated on the LME, volatile trading in the morning saw three-month metal trade down to £1,517 a tonne, the lowest level since early March, on general liquidation and some short selling in expectation of an early end to the strike at Southern Peru Copper. Market talk also suggested that LME warehouses, where stocks have halved since the start of the year to 54,575 tonnes. The fall continued on Comex, and steepened just before the 27-day-old strike at Peru's Tintaya mine had ended. However,

Completed from Reuters

London Markets

SPOT MARKETS			
Copper (per barrel FOB)	£	1517.00	-0.25
Aluminium (per barrel FOB)	£	1517.00	-0.25
Gold (per ounce)	£	376.25	+1.00
Silver (per ounce)	£	540.75	+2.25
Platinum (per ounce)	£	1128.50	+0.15
Oil products	£		
Crude oil (per barrel FOB)	£	18.75	+0.15
Gas oil (per barrel FOB)	£	17.75	+0.15
Heating oil (per barrel FOB)	£	17.75	+0.15
Other	£		
Gold (per ounce)	£	376.25	+1.00
Silver (per ounce)	£	540.75	+2.25
Platinum (per ounce)	£	1128.50	+0.15
Aluminium (per barrel FOB)	£	1517.00	-0.25
Copper (per barrel FOB)	£	1517.00	-0.25
Gold (per ounce)	£	376.25	+1.00
Silver (per ounce)	£	540.75	+2.25
Platinum (per ounce)	£	1128.50	+0.15
Oil products	£		
Crude oil (per barrel FOB)	£	18.75	+0.15
Gas oil (per barrel FOB)	£	17.75	+0.15
Heating oil (per barrel FOB)	£	17.75	+0.15
Other	£		
Gold (per ounce)	£	376.25	+1.00
Silver (per ounce)	£	540.75	+2.25
Platinum (per ounce)	£	1128.50	+0.15
Aluminium (per barrel FOB)	£	1517.00	-0.25
Copper (per barrel FOB)	£	1517.00	-0.25

analysts were quick to add that copper prices might have slid thin volume that the late-morning slide might have been exaggerated. Lower LME copper contributed to the failure of three-month lead prices to hold above \$500 a tonne. On the Baltic Futures Exchange dry cargo freight futures remained in sharp retreat. Dealers said earlier optimism that there could be a slight recovery next month had now completely evaporated and May is now trading at a substantial discount to April. In Chicago pork bellies were up by the 2 cent daily limit by mid-session.

Completed from Reuters

London Markets

SPOT MARKETS			
Copper (per barrel FOB)	£	1517.00	-0.25
Aluminium (per barrel FOB)	£	1517.00	-0.25
Gold (per ounce)	£	376.25	+1.00
Silver (per ounce)	£	540.75	+2.25
Platinum (per ounce)	£	1128.50	+0.15
Oil products	£		
Crude oil (per barrel FOB)	£	18.75	+0.15
Gas oil (per barrel FOB)	£	17.75	+0.15
Heating oil (per barrel FOB)	£	17.75	+0.15
Other	£		
Gold (per ounce)	£	376.25	+1.00
Silver (per ounce)	£	540.75	+2.25
Platinum (per ounce)	£	1128.50	+0.15
Aluminium (per barrel FOB)	£	1517.00	-0.25
Copper (per barrel FOB)	£	1517.00	-0.25
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Silver (per ounce)	£	540.75	+2.25
Platinum (per ounce)	£	1128.50	+0.15
Aluminium (per barrel FOB)	£	1517.00	-0.25
Copper (per barrel FOB)	£	1517.00	-0.25

	Close	Previous
May	888	882
Jul	878	880
Sep	868	867
Dec	911	908
Mar	929	932
May	943	935
Jul	960	950
Turnover:	12333 (9501) lots	
ICGO Indicator prices (SDR)		
price for Apr 18	1048.59	
age for Apr 19	1028.97 (1028.97)	

GOPFER - London POKE		
	Close	Previous
May	677	667
Jul	679	680
Sep	689	690
Nov	699	713
Jan	711	793
Mar	728	759







## BUILDING. TIMBER. ROADS

1998		Stock		Price	%	Bid	Ask	%
High	Low					Net	Net	
111	27	Ray Humes	v	25	-2	25	25	0
112	27	Ray Humes	v	25	-2	25	25	0
113	27	Ray Humes	v	25	-2	25	25	0
114	27	Ray Humes	v	25	-2	25	25	0
115	27	Ray Humes	v	25	-2	25	25	0
116	27	Ray Humes	v	25	-2	25	25	0
117	27	Ray Humes	v	25	-2	25	25	0
118	27	Ray Humes	v	25	-2	25	25	0
119	27	Ray Humes	v	25	-2	25	25	0
120	27	Ray Humes	v	25	-2	25	25	0
121	27	Ray Humes	v	25	-2	25	25	0
122	27	Ray Humes	v	25	-2	25	25	0
123	27	Ray Humes	v	25	-2	25	25	0
124	27	Ray Humes	v	25	-2	25	25	0
125	27	Ray Humes	v	25	-2	25	25	0
126	27	Ray Humes	v	25	-2	25	25	0
127	27	Ray Humes	v	25	-2	25	25	0
128	27	Ray Humes	v	25	-2	25	25	0
129	27	Ray Humes	v	25	-2	25	25	0
130	27	Ray Humes	v	25	-2	25	25	0
131	27	Ray Humes	v	25	-2	25	25	0
132	27	Ray Humes	v	25	-2	25	25	0
133	27	Ray Humes	v	25	-2	25	25	0
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135	27	Ray Humes	v	25	-2	25	25	0
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299	27	Ray Humes	v	25	-2	25	25	0</

### ELECTRICALS - Contd

1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100	2101	2102	2103	2104	2105	2106	2107	2108	2109	2110	2111	2112	2113	2114	2115	2116	2117	2118	2119	2120	2121	2122	2123	2124	2125	2126	2127	2128	2129	2130	2131	2132	2133	2134	2135	2136	2137	2138	2139	2140	2141	2142	2143	2144	2145	2146	2147	2148	2149	2150	2151	2152	2153	2154	2155	2156	2157	2158	2159	2160	2161	2162	2163	2164	2165	2166	2167	2168	2169	2170	2171	2172	2173	2174	2175	2176	2177	2178	2179	2180	2181	2182	2183	2184	2185	2186	2187	2188	2189	2190	2191	2192	2193	2194	2195	2196	2197	2198	2199	2200	2201	2202	2203	2204	2205	2206	2207	2208	2209	2210	2211	2212	2213	2214	2215	2216	2217	2218	2219	2220	2221	2222	2223	2224	2225	2226	2227	2228	2229	2230	2231	2232	2233	2234	2235	2236	2237	2238	2239	2240	2241	2242	2243	2244	2245	2246	2247	2248	2249	2250	2251	2252	2253	2254	2255	2256	2257	2258	2259	2260	2261	2262	2263	2264	2265	2266	2267	2268	2269	2270	2271	2272	2273	2274	2275	2276	2277	2278	2279	2280	2281	2282	2283	2284	2285	2286	2287	2288	2289	2290	2291	2292	2293	2294	2295	2296	2297	2298	2299	2300	2301	2302	2303	2304	2305	2306	2307	2308	2309	2310	2311	2312	2313	2314	2315	2316	2317	2318	2319	2320	2321	2322	2323	2324	2325	2326	2327	2328	2329	2330	2331	2332	2333	2334	2335	2336	2337	2338	2339	2340	2341	2342	2343	2344	2345	2346	2347	2348	2349	2350	2351	2352	2353	2354	2355	2356	2357	2358	2359	2360	2361	2362	2363	2364	2365	2366	2367	2368	2369	2370	2371	2372	2373	2374	2375	2376	2377	2378	2379	2380	2381	2382	2383	2384	2385	2386	2387	2388	2389	2390	2391	2392	2393	2394	2395	2396	2397	2398	2399	2400	2401	2402	2403	2404	2405	2406	2407	2408	2409	2410	2411	2412	2413	2414	2415	2416	2417	2418	2419	2420	2421	2422	2423	2424	2425	2426	2427	2428	2429	2430	2431	2432	2433	2434	2435	2436	2437	2438	2439	2440	2441	2442	2443	2444	2445	2446	2447	2448	2449	2450	2451	2452	2453	2454	2455	2456	2457	2458	2459	2460	2461	2462	2463	2464	2465	2466	2467	2468	2469	2470	2471	2472	2473	2474	2475	2476	2477	2478	2479	2480	2481	2482	2483	2484	2485	2486	2487	2488	2489	2490	2491	2492	2493	2494	2495	2496	2497	2498	2499	2500	2501	2502	2503	2504	2505	2506	2507	2508	2509	2510	2511	2512	2513	2514	2515	2516	2517	2518	2519	2520	2521	2522	2523	2524	2525	2526	2527	2528	2529	2530	2531	2532	2533	2534	2535	2536	2537	2538	2539	2540	2541	2542	2543	2544	2545	2546	2547	2548	2549	2550	2551	2552	2553	2554	2555	2556	2557	2558	2559	2560	2561	2562	2563	2564	2565	2566	2567	2568	2569	2570	2571	2572	2573	2574	2575	2576	2577	2578	2579	2580	2581	2582	2583	2584	2585	2586	2587	2588	2589	2590	2591	2592	2593	2594	2595	2596	2597	2598	2599	2600	2601	2602	2603	2604	2605	2606	2607	2608	2609	2610	2611	2612	2613	2614	2615	2616	2617	2618	2619	2620	2621	2622	2623	2624	2625	2626	2627	2628	2629	2630	2631	2632	2633	2634	2635	2636	2637	2638	2639	2640	2641	2642	2643	2644	2645	2646	2647	2648	2649	2650	2651	2652	2653	2654	2655	2656	2657	2658	2659	2660	2661	2662	2663	2664	2665	2666	2667	2668	2669	2670	2671	2672	2673	2674	2675	2676	2677	2678	2679	2680	2681	2682	2683	2684	2685	2686	2687	2688	2689	2690	2691	2692	2693	2694	2695	2696	2697	2698	2699	2700	2701	2702	2703	2704	2705	2706	2707	2708	2709	2710	2711	2712	2713	2714	2715	2716	2717	2718	2719	2720	2721	2722	2723	2724	2725	2726	2727	2728	2729	2730	2731	2732	2733	2734	2735	2736	2737	2738	2739	2740	2741	2742	2743	2744	2745	2746	2747	2748	2749	2750	2751	2752	2753	2754	2755	2756	2757	2758	2759	2760	2761	2762	2763	2764	2765	2766	2767	2768	2769	2770	2771	2772	2773	2774	2775	2776	2777	2778	2779	2780	2781	2782	2783	2784	2785	2786	2787	2788	2789	2790	2791	2792	2793	2794	2795	2796	2797	2798	2799	2800	2801	2802	2803	2804	2805	2806	2807	2808	2809	2810	2811	2812	2813	2814	2815	2816	2817	2818	2819	2820	2821	2822	2823	2824	2825	2826	2827	2828	2829	2830	2831	2832	2833	2834	2835	2836	2837	2838	2839	2840	2841	2842	2843	2844	2845	2846	2847	2848	2849	2850	2851	2852	2853	2854	2855	2856	2857	2858	2859	2860	2861	2862	2863	2864	2865	2866	2867	2868	2869	2870	2871	2872	2873	2874	2875	2876	2877	2878	2879	2880	2881	2882	2883	2884	2885	2886	2887	2888	2889	2890	2891	2892	2893	2894	2895	2896	2897	2898	2899	2900	2901	2902	2903	2904	2905	2906	2907	2908	2909	2910	2911	2912	2913	2914	2915	2916	2917	2918	2919	2920	2921	2922	2923	2924	2925	2926	2927	2928	2929	2930	2931	2932	2933	2934	2935	2936	2937	2938	2939	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**INDUSTRIALS (Miscel.)—Contd.**[illegible]

## INDUSTRIALS (Miscel.)—Contd

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 Date Filed \_\_\_\_\_

1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100	2101	2102	2103	2104	2105	2106	2107	2108	2109	2110	2111	2112	2113	2114	2115	2116	2117	2118	2119	2120	2121	2122	2123	2124	2125	2126	2127	2128	2129	2130	2131	2132	2133	2134	2135	2136	2137	2138	2139	2140	2141	2142	2143	2144	2145	2146	2147	2148	2149	2150	2151	2152	2153	2154	2155	2156	2157	2158	2159	2160	2161	2162	2163	2164	2165	2166	2167	2168	2169	2170	2171	2172	2173	2174	2175	2176	2177	2178	2179	2180	2181	2182	2183	2184	2185	2186	2187	2188	2189	2190	2191	2192	2193	2194	2195	2196	2197	2198	2199	2200	2201	2202	2203	2204	2205	2206	2207	2208	2209	2210	2211	2212	2213	2214	2215	2216	2217	2218	2219	2220	2221	2222	2223	2224	2225	2226	2227	2228	2229	2230	2231	2232	2233	2234	2235	2236	2237	2238	2239	2240	2241	2242	2243	2244	2245	2246	2247	2248	2249	2250	2251	2252	2253	2254	2255	2256	2257	2258	2259	2260	2261	2262	2263	2264	2265	2266	2267	2268	2269	2270	2271	2272	2273	2274	2275	2276	2277	2278	2279	2280	2281	2282	2283	2284	2285	2286	2287	2288	2289	2290	2291	2292	2293	2294	2295	2296	2297	2298	2299	2300	2301	2302	2303	2304	2305	2306	2307	2308	2309	2310	2311	2312	2313	2314	2315	2316	2317	2318	2319	2320	2321	2322	2323	2324	2325	2326	2327	2328	2329	2330	2331	2332	2333	2334	2335	2336	2337	2338	2339	2340	2341	2342	2343	2344	2345	2346	2347	2348	2349	2350	2351	2352	2353	2354	2355	2356	2357	2358	2359	2360	2361	2362	2363	2364	2365	2366	2367	2368	2369	2370	2371	2372	2373	2374	2375	2376	2377	2378	2379	2380	2381	2382	2383	2384	2385	2386	2387	2388	2389	2390	2391	2392	2393	2394	2395	2396	2397	2398	2399	2400	2401	2402	2403	2404	2405	2406	2407	2408	2409	2410	2411	2412	2413	2414	2415	2416	2417	2418	2419	2420	2421	2422	2423	2424	2425	2426	2427	2428	2429	2430	2431	2432	2433	2434	2435	2436	2437	2438	2439	2440	2441	2442	2443	2444	2445	2446	2447	2448	2449	2450	2451	2452	2453	2454	2455	2456	2457	2458	2459	2460	2461	2462	2463	2464	2465	2466	2467	2468	2469	2470	2471	2472	2473	2474	2475	2476	2477	2478	2479	2480	2481	2482	2483	2484	2485	2486	2487	2488	2489	2490	2491	2492	2493	2494	2495	2496	2497	2498	2499	2500	2501	2502	2503	2504	2505	2506	2507	2508	2509	2510	2511	2512	2513	2514	2515	2516	2517	2518	2519	2520	2521	2522	2523	2524	2525	2526	2527	2528	2529	2530	2531	2532	2533	2534	2535	2536	2537	2538	2539	2540	2541	2542	2543	2544	2545	2546	2547	2548	2549	2550	2551	2552	2553	2554	2555	2556	2557	2558	2559	2560	2561	2562	2563	2564	2565	2566	2567	2568	2569	2570	2571	2572	2573	2574	2575	2576	2577	2578	2579	2580	2581	2582	2583	2584	2585	2586	2587	2588	2589	2590	2591	2592	2593	2594	2595	2596	2597	2598	2599	2600	2601	2602	2603	2604	2605	2606	2607	2608	2609	2610	2611	2612	2613	2614	2615	2616	2617	2618	2619	2620	2621	2622	2623	2624	2625	2626	2627	2628	2629	2630	2631	2632	2633	2634	2635	2636	2637	2638	2639	2640	2641	2642	2643	2644	2645	2646	2647	2648	2649	2650	2651	2652	2653	2654	2655	2656	2657	2658	2659	2660	2661	2662	2663	2664	2665	2666	2667	2668	2669	2670	2671	2672	2673	2674	2675	2676	2677	2678	2679	2680	2681	2682	2683	2684	2685	2686	2687	2688	2689	2690	2691	2692	2693	2694	2695	2696	2697	2698	2699	2700	2701	2702	2703	2704	2705	2706	2707	2708	2709	2710	2711	2712	2713	2714	2715	2716	2717	2718	2719	2720	2721	2722	2723	2724	2725	2726	2727	2728	2729	2730	2731	2732	2733	2734	2735	2736	2737	2738	2739	2740	2741	2742	2743	2744	2745	2746	2747	2748	2749	2750	2751	2752	2753	2754	2755	2756	2757	2758	2759	2760	2761	2762	2763	2764	2765	2766	2767	2768	2769	2770	2771	2772	2773	2774	2775	2776	2777	2778	2779	2780	2781	2782	2783	2784	2785	2786	2787	2788	2789	2790	2791	2792	2793	2794	2795	2796	2797	2798	2799	2800	2801	2802	2803	2804	2805	2806	2807	2808	2809	2810	2811	2812	2813	2814	2815	2816	2817	2818	2819	2820	2821	2822	2823	2824	2825	2826	2827	2828	2829	2830	2831	2832	2833	2834	2835	2836	2837	2838	2839	2840	2841	2842	2843	2844	2845	2846	2847	2848	2849	2850	2851	2852	2853	2854	2855	2856	2857	2858	2859	2860	2861	2862	2863	2864	2865	2866	2867	2868	2869	2870	2871	2872	2873	2874	2875	2876	2877	2878	2879	2880	2881	2882	2883	2884	2885	2886	2887	2888	2889	2890	2891	2892	2893	2894	2895	2896	2897	2898	2899	2900	2901	2902	2903	2904	2905	2906	2907	2908	2909	2910	2911	2912	2913	2914	2915	2916	2917	2918	2919	2920	2921	2922	2923	2924	2925	2926	2927	2928	2929	2930	2931	2932	2933	2934	2935	2936	2937	2938	2939	2940	2941	2942	2943	2944	2945	2946	2947	2948	2949	2950	2951	2952	2953	2954	2955	2956	2957	2958	2959	2960	2961	2962	2963	2964	2965	2966	2967	2968	2969	2970	2971	2972	2973	2974	2975	2976	2977	2978	2979	2980	2981	2982	2983	2984	2985	2986	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163	1264 Alan Paul Sp.....	145	+2	12.5	2.6	2.3
421	394 Alexon 10p.....	415	-6	120.3	2.9	3.4
53	440 Amber Day 21.5	451	-1	11.5	2.0	4.4

175	335A	Amuratum Sp.	340	1.0	1.0	1.2
176	40	Do "A" Sp.	340	1.0	1.0	1.2
177	335B	Amuratum Sp.	340	1.0	1.0	1.2
178	370A	Asary	370	1.0	1.0	1.2
179	370B	Asary	370	1.0	1.0	1.2
180	144D	Do A.N.V.	280	1.0	1.0	1.2
181	100A	Autogen 100s	60	1.0	1.0	1.2
182	100B	Autogen 100s	60	1.0	1.0	1.2
183	100C	Autogen 100s	60	1.0	1.0	1.2
184	100D	Autogen 100s	60	1.0	1.0	1.2
185	100E	Autogen 100s	60	1.0	1.0	1.2
186	100F	Autogen 100s	60	1.0	1.0	1.2
187	100G	Autogen 100s	60	1.0	1.0	1.2
188	100H	Autogen 100s	60	1.0	1.0	1.2
189	100I	Autogen 100s	60	1.0	1.0	1.2
190	100J	Autogen 100s	60	1.0	1.0	1.2
191	100K	Autogen 100s	60	1.0	1.0	1.2
192	100L	Autogen 100s	60	1.0	1.0	1.2
193	100M	Autogen 100s	60	1.0	1.0	1.2
194	100N	Autogen 100s	60	1.0	1.0	1.2
195	100O	Autogen 100s	60	1.0	1.0	1.2
196	100P	Autogen 100s	60	1.0	1.0	1.2
197	100Q	Autogen 100s	60	1.0	1.0	1.2
198	100R	Autogen 100s	60	1.0	1.0	1.2
199	100S	Autogen 100s	60	1.0	1.0	1.2
200	100T	Autogen 100s	60	1.0	1.0	1.2
201	100U	Autogen 100s	60	1.0	1.0	1.2
202	100V	Autogen 100s	60	1.0	1.0	1.2
203	100W	Autogen 100s	60	1.0	1.0	1.2
204	100X	Autogen 100s	60	1.0	1.0	1.2
205	100Y	Autogen 100s	60	1.0	1.0	1.2
206	100Z	Autogen 100s	60	1.0	1.0	1.2
207	100AA	Autogen 100s	60	1.0	1.0	1.2
208	100AB	Autogen 100s	60	1.0	1.0	1.2
209	100AC	Autogen 100s	60	1.0	1.0	1.2
210	100AD	Autogen 100s	60	1.0	1.0	1.2
211	100AE	Autogen 100s	60	1.0	1.0	1.2
212	100AF	Autogen 100s	60	1.0	1.0	1.2
213	100AG	Autogen 100s	60	1.0	1.0	1.2
214	100AH	Autogen 100s	60	1.0	1.0	1.2
215	100AI	Autogen 100s	60	1.0	1.0	1.2
216	100AJ	Autogen 100s	60	1.0	1.0	1.2
217	100AK	Autogen 100s	60	1.0	1.0	1.2
218	100AL	Autogen 100s	60	1.0	1.0	1.2
219	100AM	Autogen 100s	60	1.0	1.0	1.2
220	100AN	Autogen 100s	60	1.0	1.0	1.2
221	100AO	Autogen 100s	60	1.0	1.0	1.2
222	100AP	Autogen 100s	60	1.0	1.0	1.2
223	100AQ	Autogen 100s	60	1.0	1.0	1.2
224	100AR	Autogen 100s	60	1.0	1.0	1.2
225	100AS	Autogen 100s	60	1.0	1.0	1.2
226	100AT	Autogen 100s	60	1.0	1.0	1.2
227	100AU	Autogen 100s	60	1.0	1.0	1.2
228	100AV	Autogen 100s	60	1.0	1.0	1.2
229	100AW	Autogen 100s	60	1.0	1.0	1.2
230	100AX	Autogen 100s	60	1.0	1.0	1.2
231	100AY	Autogen 100s	60	1.0	1.0	1.2
232	100AZ	Autogen 100s	60	1.0	1.0	1.2
233	100BA	Autogen 100s	60	1.0	1.0	1.2
234	100BB	Autogen 100s	60	1.0	1.0	1.2
235	100BC	Autogen 100s	60	1.0	1.0	1.2
236	100BD	Autogen 100s	60	1.0	1.0	1.2
237	100BE	Autogen 100s	60	1.0	1.0	1.2
238	100BF	Autogen 100s	60	1.0	1.0	1.2
239	100BG	Autogen 100s	60	1.0	1.0	1.2
240	100BH	Autogen 100s	60	1.0	1.0	1.2
241	100BI	Autogen 100s	60	1.0	1.0	1.2
242	100BJ	Autogen 100s	60	1.0	1.0	1.2
243	100BK	Autogen 100s	60	1.0	1.0	1.2
244	100BL	Autogen 100s	60	1.0	1.0	1.2
245	100BM	Autogen 100s	60	1.0	1.0	1.2
246	100BN	Autogen 100s	60	1.0	1.0	1.2
247	100BO	Autogen 100s	60	1.0	1.0	1.2
248	100BP	Autogen 100s	60	1.0	1.0	1.2
249	100BQ	Autogen 100s	60	1.0	1.0	1.2
250	100BR	Autogen 100s	60	1.0	1.0	1.2
251	100BS	Autogen 100s	60	1.0	1.0	1.2
252	100BT	Autogen 100s	60	1.0	1.0	1.2
253	100BU	Autogen 100s	60	1.0	1.0	1.2
254	100BV	Autogen 100s	60	1.0	1.0	1.2
255	100BW	Autogen 100s	60	1.0	1.0	1.2
256	100BX	Autogen 100s	60	1.0	1.0	1.2
257	100BY	Autogen 100s	60	1.0	1.0	1.2
258	100BZ	Autogen 100s	60	1.0	1.0	1.2
259	100CA	Autogen 100s	60	1.0	1.0	1.2
260	100CB	Autogen 100s	60	1.0	1.0	1.2
261	100CC	Autogen 100s	60	1.0	1.0	1.2
262	100CD	Autogen 100s	60	1.0	1.0	1.2
263	100CE	Autogen 100s	60	1.0	1.0	1.2
264	100CF	Autogen 100s	60	1.0	1.0	1.2
265	100CG	Autogen 100s	60	1.0	1.0	1.2
266	100CH	Autogen 100s	60	1.0	1.0	1.2
267	100CI	Autogen 100s	60	1.0	1.0	1.2
268	100CJ	Autogen 100s	60	1.0	1.0	1.2
269	100CK	Autogen 100s	60	1.0	1.0	1.2
270	100CL	Autogen 100s	60	1.0	1.0	1.2
271	100CM	Autogen 100s	60	1.0	1.0	1.2
272	100CN	Autogen 100s	60	1.0	1.0	1.2
273	100CO	Autogen 100s	60	1.0	1.0	1.2
274	100CP	Autogen 100s	60	1.0	1.0	1.2
275	100CQ	Autogen 100s	60	1.0	1.0	1.2
276	100CR	Autogen 100s	60	1.0	1.0	1.2
277	100CS	Autogen 100s	60	1.0	1.0	1.2
278	100CT	Autogen 100s	60	1.0	1.0	1.2
279	100CU	Autogen 100s	60	1.0	1.0	1.2
280	100CV	Autogen 100s	60	1.0	1.0	1.2
281	100CW	Autogen 100s	60	1.0	1.0	1.2
282	100CX	Autogen 100s	60	1.0	1.0	1.2
283	100CY	Autogen 100s	60	1.0	1.0	1.2
284	100CZ	Autogen 100s	60	1.0	1.0	1.2
285	100DA	Autogen 100s	60	1.0	1.0	1.2
286	100DB	Autogen 100s	60	1.0	1.0	1.2
287	100DC	Autogen 100s	60	1.0	1.0	1.2
288	100DD	Autogen 100s	60	1.0	1.0	1.2
289	100DE	Autogen 100s	60	1.0	1.0	1.2
290	100DF	Autogen 100s	60	1.0	1.0	1.2
291	100DG	Autogen 100s	60	1.0	1.0	1.2
292	100DH	Autogen 100s	60	1.0	1.0	1.2
293	100DI	Autogen 100s	60	1.0	1.0	1.2
294	100DJ	Autogen 100s	60	1.0	1.0	1.2
295	100DK	Autogen 100s	60	1.0	1.0	1.2
296	100DL	Autogen 100s	60	1.0	1.0	1.2
297	100DM	Autogen 100s	60	1.0	1.0	1.2
298	100DN	Autogen 100s	60	1.0	1.0	1.2
299	100DO	Autogen 100s	60	1.0	1.0	1.2
300	100DP	Autogen 100s	60	1.0	1.0	1.2
301	100DQ	Autogen 100s	60	1.0	1.0	1.2
302	100DR	Autogen 100s	60	1.0	1.0	1.2
303	100DS	Autogen 100s	60	1.0	1.0	1.2
304	100DT	Autogen 100s	60	1.0	1.0	1.2
305	100DU	Autogen 100s	60	1.0	1.0	1.2
306	100DV	Autogen 100s	60	1.0	1.0	1.2
307	100DW	Autogen 100s	60	1.0	1.0	1.2
308	100DX	Autogen 100s	60	1.0	1.0	1.2
309	100DY	Autogen 100s	60	1.0	1.0	1.2
310	100DZ	Autogen 100s	60	1.0	1.0	1.2
311	100EA	Autogen 100s	60	1.0	1.0	1.2
312	100EB	Autogen 100s	60	1.0	1.0	1.2
313	100EC	Autogen 100s	60	1.0	1.0	1.2
314	100ED	Autogen 100s	60	1.0	1.0	1.2
315	100EE	Autogen 100s	60	1.0	1.0	1.2
316	100EF	Autogen 100s	60	1.0	1.0	1.2
317	100EG	Autogen 100s	60	1.0	1.0	1.2
318	100EH	Autogen 100s	60	1.0	1.0	1.2
319	100EI	Autogen 100s	60	1.0	1.0	1.2
320	100EJ	Autogen 100s	60	1.0	1.0	1.2
321	100EK	Autogen 100s	60	1.0	1.0	1.2
322	100EL	Autogen 100s	60	1.0	1.0	1.2
323	100EM	Autogen 100s	60	1.0	1.0	1.2
324	100EN	Autogen 100s	60	1.0	1.0	1.2
325	100EO	Autogen 100s	60	1.0	1.0	1.2
326	100EP	Autogen 100s	60	1.0	1.0	1.2
327	100EQ	Autogen 100s	60	1.0	1.0	1.2
328	100ER	Autogen 100s	60	1.0	1.0	1.2
329	100ES	Autogen 100s	60	1.0	1.0	1.2
330	100ET	Autogen 100s	60	1.0	1.0	1.2
331	100EU	Autogen 100s	60	1.0	1.0	1.2
332	100EV	Autogen 100s	60	1.0	1.0	1.2
333	100EW	Autogen 100s	60	1.0	1.0	1.2
334	100EX	Autogen 100s	60	1.0	1.0	1.2
335	100EY	Autogen 100s	60	1.0	1.0	1.2
336	100EZ	Autogen 100s	60	1.0	1.0	1.2
337	100FA	Autogen 100s	60	1.0	1.0	1.2
338	100FB	Autogen 100s	60	1.0	1.0	1.2
339	100FC	Autogen 100s	60	1.0	1.0	1.2
340	100FD	Autogen 100s	60	1.0	1.0	1.2
341	100FE	Autogen 100s	60	1.0	1.0	1.2
342	100FF	Autogen 100s	60	1.0	1.0	1.2
343	100FG	Autogen 100s	60	1.0	1.0	1.2
344	100FH	Autogen 100s	60	1.0	1.0	1.2
345	100FI	Autogen 100s	60	1.0	1.0	1.2
346	100FJ	Autogen 100s	60	1.0	1.0	1.2
347	100FK	Autogen 100s	60	1.0	1.0	1.2
348	100FL	Autogen 100s	60	1.0	1.0	1.2
349	100FM	Autogen 100s	60	1.0	1.0	1.2
350	100FN	Autogen 100s	60	1.0	1.0	1.2
351	100FO	Autogen 100s	60	1.0	1.0	1.2
352	100FP	Autogen 100s	60	1.0	1.0	1.2
353	100FQ	Autogen 100s	60	1.0	1.0	1.2
354	100FR	Autogen 100s	60	1.0	1.0	1.2
355	100FS	Autogen 100s	60	1.0	1.0	1.2
356	100FT	Autogen 100s	60	1.0	1.0	1.2
357	100FU	Autogen 100s	60	1.0	1.0	1.2
358	100FV	Autogen 100s	60	1.0	1.0	1.2
359	100FW	Autogen 100s	60	1.0	1.0	1.2
360	100FX	Autogen 100s	60	1.0	1.0	1.2
361	100FY	Autogen 100s	60	1.0	1.0	1.2
362	100FZ	Autogen 100s	60	1.0	1.0	1.2
363	100GA	Autogen 100s	60	1.0	1.0	1.2
364	100GB	Autogen 100s	60	1.0	1.0	1.2
365	100GC	Autogen 100s	60	1.0	1.0	1.2
366	100GD	Autogen 100s	60	1.0	1.0	1.2
367	100GE	Autogen 100s	60	1.0	1.0	1.2
368	100GF	Autogen 100s	6			

105	€95	Philips Fin 5 1/4 %	€95	05 1/4 %
51	€124	Philips Lp F10	€124	02 20 %

10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10</
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248	233 Green (E) & Parl 5p...	233	16.25	4.2	3.6
202	169 Greenwood Secs....	149	9.4	3.6	2.7
203	181 Greenbush Co.	180	14.5	3.1	3.2

[illegible]

\$1.0	0.6	\$28.2
2.5	2.1	9.5
5.0	5.4	1.6

25	Wahsco	245	11.3	24	7.9
26	Wahsco	245	11.3	24	7.9
27	Wahsco	245	11.3	24	7.9
28	Wahsco	245	11.3	24	7.9
29	Wahsco	245	11.3	24	7.9
30	Wahsco	245	11.3	24	7.9
31	Wahsco	245	11.3	24	7.9
32	Wahsco	245	11.3	24	7.9
33	Wahsco	245	11.3	24	7.9
34	Wahsco	245	11.3	24	7.9
35	Wahsco	245	11.3	24	7.9
36	Wahsco	245	11.3	24	7.9
37	Wahsco	245	11.3	24	7.9
38	Wahsco	245	11.3	24	7.9
39	Wahsco	245	11.3	24	7.9
40	Wahsco	245	11.3	24	7.9
41	Wahsco	245	11.3	24	7.9
42	Wahsco	245	11.3	24	7.9
43	Wahsco	245	11.3	24	7.9
44	Wahsco	245	11.3	24	7.9
45	Wahsco	245	11.3	24	7.9
46	Wahsco	245	11.3	24	7.9
47	Wahsco	245	11.3	24	7.9
48	Wahsco	245	11.3	24	7.9
49	Wahsco	245	11.3	24	7.9
50	Wahsco	245	11.3	24	7.9
51	Wahsco	245	11.3	24	7.9
52	Wahsco	245	11.3	24	7.9
53	Wahsco	245	11.3	24	7.9
54	Wahsco	245	11.3	24	7.9
55	Wahsco	245	11.3	24	7.9
56	Wahsco	245	11.3	24	7.9
57	Wahsco	245	11.3	24	7.9
58	Wahsco	245	11.3	24	7.9
59	Wahsco	245	11.3	24	7.9
60	Wahsco	245	11.3	24	7.9
61	Wahsco	245	11.3	24	7.9
62	Wahsco	245	11.3	24	7.9
63	Wahsco	245	11.3	24	7.9
64	Wahsco	245	11.3	24	7.9
65	Wahsco	245	11.3	24	7.9
66	Wahsco	245	11.3	24	7.9
67	Wahsco	245	11.3	24	7.9
68	Wahsco	245	11.3	24	7.9
69	Wahsco	245	11.3	24	7.9
70	Wahsco	245	11.3	24	7.9
71	Wahsco	245	11.3	24	7.9
72	Wahsco	245	11.3	24	7.9
73	Wahsco	245	11.3	24	7.9
74	Wahsco	245	11.3	24	7.9
75	Wahsco	245	11.3	24	7.9
76	Wahsco	245	11.3	24	7.9
77	Wahsco	245	11.3	24	7.9
78	Wahsco	245	11.3	24	7.9
79	Wahsco	245	11.3	24	7.9
80	Wahsco	245	11.3	24	7.9
81	Wahsco	245	11.3	24	7.9
82	Wahsco	245	11.3	24	7.9
83	Wahsco	245	11.3	24	7.9
84	Wahsco	245	11.3	24	7.9
85	Wahsco	245	11.3	24	7.9
86	Wahsco	245	11.3	24	7.9
87	Wahsco	245	11.3	24	7.9
88	Wahsco	245	11.3	24	7.9
89	Wahsco	245	11.3	24	7.9
90	Wahsco	245	11.3	24	7.9
91	Wahsco	245	11.3	24	7.9

61	50 Do. (New) Dr Cr Pl Sp y	51	50	-12.1
428	352 Dunhill Hlgs. 10p.. 8	361	13.75	4.8 1.4
47	15 ERA Group Sp. . . 8	15	2.75	1.8 24.4

[illegible]

64	48	Star Comp. 10p	Y	48	....	-	-
62	42	Somleigh	....Y	43	-1	2.0	6

[illegible]

143	128	SA International Sv. Y	199	-I	1.12	0.17
144	129	SA Int'l. Sec. 2000	199	-I	1.12	0.17

[illegible]

011%	011%	-
032%	2.1	6.9

134	68Allied Nat. Bk. & Tr.	122	7.9	3.0	6.4
135	68American Sav. Co.	125	11.65	3.1	6.4
136	68Atlantic Tel. & Tel.	222	3.0	3.1	6.4
137	68Bank of America	222	3.0	3.1	6.4
138	68Bank of New York	222	3.0	3.1	6.4
139	68Bank of the South	222	3.0	3.1	6.4
140	68Bank of the West	222	3.0	3.1	6.4
141	68Bank of the City	222	3.0	3.1	6.4
142	68Bank of the State	222	3.0	3.1	6.4
143	68Bank of the Union	222	3.0	3.1	6.4
144	68Bank of the Republic	222	3.0	3.1	6.4
145	68Bank of the Commonwealth	222	3.0	3.1	6.4
146	68Bank of the Empire	222	3.0	3.1	6.4
147	68Bank of the North	222	3.0	3.1	6.4
148	68Bank of the South	222	3.0	3.1	6.4
149	68Bank of the West	222	3.0	3.1	6.4
150	68Bank of the City	222	3.0	3.1	6.4
151	68Bank of the State	222	3.0	3.1	6.4
152	68Bank of the Union	222	3.0	3.1	6.4
153	68Bank of the Republic	222	3.0	3.1	6.4
154	68Bank of the Commonwealth	222	3.0	3.1	6.4
155	68Bank of the Empire	222	3.0	3.1	6.4
156	68Bank of the North	222	3.0	3.1	6.4
157	68Bank of the South	222	3.0	3.1	6.4
158	68Bank of the West	222	3.0	3.1	6.4
159	68Bank of the City	222	3.0	3.1	6.4
160	68Bank of the State	222	3.0	3.1	6.4
161	68Bank of the Union	222	3.0	3.1	6.4
162	68Bank of the Republic	222	3.0	3.1	6.4
163	68Bank of the Commonwealth	222	3.0	3.1	6.4
164	68Bank of the Empire	222	3.0	3.1	6.4
165	68Bank of the North	222	3.0	3.1	6.4
166	68Bank of the South	222	3.0	3.1	6.4
167	68Bank of the West	222	3.0	3.1	6.4
168	68Bank of the City	222	3.0	3.1	6.4
169	68Bank of the State	222	3.0	3.1	6.4
170	68Bank of the Union	222	3.0	3.1	6.4
171	68Bank of the Republic	222	3.0	3.1	6.4
172	68Bank of the Commonwealth	222	3.0	3.1	6.4
173	68Bank of the Empire	222	3.0	3.1	6.4
174	68Bank of the North	222	3.0	3.1	6.4
175	68Bank of the South	222	3.0	3.1	6.4
176	68Bank of the West	222	3.0	3.1	6.4
177	68Bank of the City	222	3.0	3.1	6.4
178	68Bank of the State	222	3.0	3.1	6.4
179	68Bank of the Union	222	3.0	3.1	6.4
180	68Bank of the Republic	222	3.0	3.1	6.4
181	68Bank of the Commonwealth	222	3.0	3.1	6.4
182	68Bank of the Empire	222	3.0	3.1	6.4
183	68Bank of the North	222	3.0	3.1	6.4
184	68Bank of the South	222	3.0	3.1	6.4
185	68Bank of the West	222	3.0	3.1	6.4
186	68Bank of the City	222	3.0	3.1	6.4
187	68Bank of the State	222	3.0	3.1	6.4
188	68Bank of the Union	222	3.0	3.1	6.4
189	68Bank of the Republic	222	3.0	3.1	6.4
190	68Bank of the Commonwealth	222	3.0	3.1	6.4
191	68Bank of the Empire	222	3.0	3.1	6.4
192	68Bank of the North	222	3.0	3.1	6.4
193	68Bank of the South	222	3.0	3.1	6.4
194	68Bank of the West	222	3.0	3.1	6.4
195	68Bank of the City	222	3.0	3.1	6.4
196	68Bank of the State	222	3.0	3.1	6.4
197	68Bank of the Union	222	3.0	3.1	6.4
198	68Bank of the Republic	222	3.0	3.1	6.4
199	68Bank of the Commonwealth	222	3.0	3.1	6.4
200	68Bank of the Empire	222	3.0	3.1	6.4

## ELECTRICALS

176	2242AS Electronic	2478	9	17.5	1.8	9.4
177	2242AS Rev	178	3	64.0	2.0	2.0
178	2242AS Rev	178	3	64.0	2.0	2.0
179	2242AS Rev	178	3	64.0	2.0	2.0
180	2242AS Rev	178	3	64.0	2.0	2.0
181	2242AS Rev	178	3	64.0	2.0	2.0
182	2242AS Rev	178	3	64.0	2.0	2.0
183	2242AS Rev	178	3	64.0	2.0	2.0
184	2242AS Rev	178	3	64.0	2.0	2.0
185	2242AS Rev	178	3	64.0	2.0	2.0
186	2242AS Rev	178	3	64.0	2.0	2.0
187	2242AS Rev	178	3	64.0	2.0	2.0
188	2242AS Rev	178	3	64.0	2.0	2.0
189	2242AS Rev	178	3	64.0	2.0	2.0
190	2242AS Rev	178	3	64.0	2.0	2.0
191	2242AS Rev	178	3	64.0	2.0	2.0
192	2242AS Rev	178	3	64.0	2.0	2.0
193	2242AS Rev	178	3	64.0	2.0	2.0
194	2242AS Rev	178	3	64.0	2.0	2.0
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41	117	GEI Intnl 20p	119	16.54	1.7
44	382	GKN £1	406	20.0	2.2

[illegible]

74	47 Petrocam L2 2p....	56	+2	1.25	4	3.0
350	223 Photo-Me 2 1/2 p... v	228	-----	13.0	4.4	1.8
255	202 Pilkington 50p.....	285	-2	19.5	2.4	6.2

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721.5	3.1	2.9	13.4
0.5	-	1.4	-

[illegible]



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	(alt Chgs)	Curr. Price	Old Price	Diff + or - Price	Vol %
<b>Urgent Shipley &amp; Co Ltd - Contd.</b>					
North American	6	63 15	63 15	67 25	-1.00 0.30
Oriental & .....	6	115 8	116 4	124 8	-1.00 0.30
Secondary	6	47 50	47 55	50 64	-8.54 3.00
Smaller Can Acc	6	246 4	246 4	264 2	-1.50

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City	State	Year	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100	2101	2102	2103	2104	2105	2106	2107	2108	2109	2110	2111	2112	2113	2114	2115	2116	2117	2118	2119	2120	2121	2122	2123	2124	2125	2126	2127	2128	2129	2130	2131	2132	2133	2134	2135	2136	2137	2138	2139	2140	2141	2142	2143	2144	2145	2146	2147	2148	2149	2150	2151	2152	2153	2154	2155	2156	2157	2158	2159	2160	2161	2162	2163	2164	2165	2166	2167	2168	2169	2170	2171	2172	2173	2174	2175	2176	2177	2178	2179	2180	2181	2182	2183	2184	2185	2186	2187	2188	2189	2190	2191	2192	2193	2194	2195	2196	2197	2198	2199	2200	2201	2202	2203	2204	2205	2206	2207	2208	2209	2210	2211	2212	2213	2214	2215	2216	2217	2218	2219	2220	2221	2222	2223	2224	2225	2226	2227	2228	2229	2230	2231	2232	2233	2234	2235	2236	2237	2238	2239	2240	2241	2242	2243	2244	2245	2246	2247	2248	2249	2250	2251	2252	2253	2254	2255	2256	2257	2258	2259	2260	2261	2262	2263	2264	2265	2266	2267	2268	2269	2270	2271	2272	2273	2274	2275	2276	2277	2278	2279	2280	2281	2282	2283	2284	2285	2286	2287	2288	2289	2290	2291	2292	2293	2294	2295	2296	2297	2298	2299	2300	2301	2302	2303	2304	2305	2306	2307	2308	2309	2310	2311	2312	2313	2314	2315	2316	2317	2318	2319	2320	2321	2322	2323	2324	2325	2326	2327	2328	2329	2330	2331	2332	2333	2334	2335	2336	2337	2338	2339	2340	2341	2342	2343	2344	2345	2346	2347	2348	2349	2350	2351	2352	2353	2354	2355	2356	2357	2358	2359	2360	2361	2362	2363	2364	2365	2366	2367	2368	2369	2370	2371	2372	2373	2374	2375	2376	2377	2378	2379	2380	2381	2382	2383	2384	2385	2386	2387	2388	2389	2390	2391	2392	2393	2394	2395	2396	2397	2398	2399	2400	2401	2402	2403	2404	2405	2406	2407	2408	2409	2410	2411	2412	2413	2414	2415	2416	2417	2418	2419	2420	2421	2422	2423	2424	2425	2426	2427	2428	2429	2430	2431	2432	2433	2434	2435	2436	2437	2438	2439	2440	2441	2442	2443	2444	2445	2446	2447	2448	2449	2450	2451	2452	2453	2454	2455	2456	2457	2458	2459	2460	2461	2462	2463	2464	2465	2466	2467	2468	2469	2470	2471	2472	2473	2474	2475	2476	2477	2478	2479	2480	2481	2482	2483	2484	2485	2486	2487	2488	2489	2490	2491	2492	2493	2494	2495	2496	2497	2498	2499	2500	2501	2502	2503	2504	2505	2506	2507	2508	2509	2510	2511	2512	2513	2514	2515	2516	2517	2518	2519	2520	2521	2522	2523	2524	2525	2526	2527	2528	2529	2530	2531	2532	2533	2534	2535	2536	2537	2538	2539	2540	2541	2542	2543	2544	2545	2546	2547	2548	2549	2550	2551	2552	2553	2554	2555	2556	2557	2558	2559	2560	2561	2562	2563	2564	2565	2566	2567	2568	2569	2570	2571	2572	2573	2574	2575	2576	2577	2578	2579	2580	2581	2582	2583	2584	2585	2586	2587	2588	2589	2590	2591	2592	2593	2594	2595	2596	2597	2598	2599	2600	2601	2602	2603	2604	2605	2606	2607	2608	2609	2610	2611	2612	2613	2614	2615	2616	2617	2618	2619	2620	2621	2622	2623	2624	2625	2626	2627	2628	2629	2630	2631	2632	2633	2634	2635	2636	2637	2638	2639	2640	2641	2642	2643	2644	2645	2646	2647	2648	2649	2650	2651	2652	2653	2654	2655	2656	2657	2658	2659	2660	2661	2662	2663	2664	2665	2666	2667	2668	2669	2670	2671	2672	2673	2674	2675	2676	2677	2678	2679	2680	2681	2682	2683	2684	2685	2686	2687	2688	2689	2690	2691	2692	2693	2694	2695	2696	2697	2698	2699	2700	2701	2702	2703	2704	2705	2706	2707	2708	2709	2710	2711	2712	2713	2714	2715	2716	2717	2718	2719	2720	2721	2722	2723	2724	2725	2726	2727	2728	2729	2730	2731	2732	2733	2734	2735	2736	2737	2738	2739	2740	2741	2742	2743	2744	2745	2746	2747	2748	2749	2750	2751	2752	2753	2754	2755	2756	2757	2758	2759	2760	2761	2762	2763	2764	2765	2766	2767	2768	2769	2770	2771	2772	2773	2774	2775	2776	2777	2778	2779	2780	2781	2782	2783	2784	2785	2786	2787	2788	2789	2790	2791	2792	2793	2794	2795	2796	2797	2798	2799	2800	2801	2802	2803	2804	2805	2806	2807	2808	2809	2810	2811	2812	2813	2814	2815	2816	2817	2818	2819	2820	2821	2822	2823	2824	2825	2826	2827	2828	2829	2830	2831	2832	2833	2834	2835	2836	2837	2838	2839	2840	2841	2842	2843	2844	2845	2846	2847	2848	2849	2850	2851	2852	2853	2854	2855	2856	2857	2858	2859	2860	2861	2862	2863	2864	2865	2866	2867	2868	2869	2870	2871	2872	2873	2874	2875	2876	2877	2878	2879	2880	2881	2882	2883	2884	2885	2886	2887	2888	2889	2890	2891	2892	2893	2894	2895	2896	2897	2898	2899	2900	2901	2902	2903	2904	2905	2906	2907	2908	2909	2910	2911	2912	2913	2914	2915	2916	2917	2918	2919	2920	2921	2922	2923	2924	2925	2926	2927	2928	2929	2930	2931	2932	2933	2934	2935	2936	2937	2938	2939	2940	2941	2942	2943	2944	2945	2946	2947	2948	2949	2950	2951	2952	2953	2954	2955	2956	2957	2958	2959	2960	2961	2962	2963	2964	2965	2966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W. J. Smith	1023	11.00	W. J. Smith	1024	11.00
W. J. Smith	1025	11.00	W. J. Smith	1026	11.00
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W. J. Smith	1101	11.00	W. J. Smith	1102	11.00
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W. J. Smith	1105	11.00	W. J. Smith	1106	11.00
W. J. Smith	1107	11.00	W. J. Smith	1108	11.00
W. J. Smith	1109	11.00	W. J. Smith	1110	11.00
W. J. Smith	1111	11.00	W. J. Smith	1112	11.00
W. J. Smith	1113	11.00	W. J. Smith	1114	11.00
W. J. Smith	1115	11.00	W. J. Smith	1116	11.00
W. J. Smith	1117	11.00	W. J. Smith	1118	11.00
W. J. Smith	1119	11.00	W. J. Smith	1120	11.00
W. J. Smith	1121	11.00	W. J. Smith	1122	11.00
W. J. Smith	1123	11.00	W. J. Smith	1124	11.00

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## CURRENCIES, MONEY AND CAPITAL MARKETS

## FOREIGN EXCHANGES

## Yen and sterling improve

THE WEAK yen and sterling rallied on the foreign exchanges yesterday, but the move appeared to be largely technical and did not change the underlying vulnerability of both currencies.

Selling of US Treasury bonds by Japanese investors has been evident in recent weeks, although it remains unclear whether this represents a permanent repatriation of funds back to Tokyo, to cover losses on Japanese equities, or is simply an attempt to drive bond yields higher ahead of the next month's Treasury auction.

The move out of US bonds undermined the dollar yesterday, while sales of dollars by the Bank of Japan contributed to an improvement by the yen against the US currency. Unwinding of long D-Mark positions after the West German currency fell through technical support at ¥86.00 - also boosted the yen.

In Tokyo the Bank of Japan sold an estimated \$400m. The dollar closed at ¥157.75 in the Far East and continued to decline during European trading. It touched a low of ¥156.10 in London, compared with ¥159.10 on Wednesday. The D-Mark also weakened sharply against the yen, falling to ¥84.55 at the Tokyo close.

and to ¥83.30 at the finish of trading in London. From ¥85.15 previously, the weakening of the D-Mark was even more pronounced than the decline of the dollar against the yen. This led to a fall of several European currencies in terms of the dollar, because of their link with the D-Mark through the European Monetary System.

The dollar rose DM1.6770 from DM1.6720 to FF5.6375 from FF5.6200, but eased to FF5.6295 from FF5.6375 against the Swiss franc, which is not a member of the EMS. The dollar's index fell to 68.1 from 68.3.

Technical factors dominated the market in the absence of fresh economic news. This was helpful to sterling, which found itself in a similar position to the yen after a period of sustained weakness. A liquidation of long positions in the dollar and D-Mark led to renewed demand for the French franc.

pound. Sterling gained 65 points to \$1.6440. The pound also advanced to DM2.7575 from DM2.7375, to FF9.2025 from FF9.2475, and to SF2.4375 from SF2.4300, but fell to ¥267.35 from ¥260.50 against the strong yen. Sterling's index rose 0.4 to 87.1.

Trading within the EMS was subdued as attention focused on the yen. The Spanish peseta remained the strongest currency, followed by the Italian lira, which eased below its cross rate limit against the weaker members. One of the weaker EMS currencies is now the D-Mark, which traded only slightly above the Belgian and French francs yesterday, and below the Danish krone. At the London close the D-Mark had improved to L734.75 from L734.45 against the Italian currency, and was little changed at FF3.3615, compared with FF3.3610, in terms of the French franc.

## EMS EUROPEAN CURRENCY UNIT RATES

	Unit	Rate	% change	% change	Divergence
			from 1990	from 1989	limit
Belgian Franc	100	33.3333	-0.00	-0.00	±1.5000
French Franc	100	6.5596	-0.00	-0.00	±1.5000
German D-Mark	100	1.9363	-0.00	-0.00	±1.5000
Italian Lira	1,000	2036.27	-0.00	-0.00	±1.5000
Dutch Guilder	100	3.6363	-0.00	-0.00	±1.5000
Spanish Peseta	100	166.67	-0.00	-0.00	±1.5000
Portuguese Escudo	100	200.48	-0.00	-0.00	±1.5000
Irish Punt	100	7.8756	-0.00	-0.00	±1.5000
Greek Drachma	100	340.75	-0.00	-0.00	±1.5000
Swedish Krona	100	10.4656	-0.00	-0.00	±1.5000
Norwegian Krone	100	4.7556	-0.00	-0.00	±1.5000
Finland Markka	100	5.9457	-0.00	-0.00	±1.5000
Austrian Schilling	100	13.7603	-0.00	-0.00	±1.5000
Japanese Yen	100	157.75	-0.00	-0.00	±1.5000
US Dollar	100	68.10	-0.00	-0.00	±1.5000

Changes are for Euro; therefore positive change denotes a weak currency. Adjustment calculated by Financial Times.

## POUND SPOT - FORWARD AGAINST THE POUND

	Spot	1m	3m	6m	12m	% p.a.
US Dollar	1.6440	1.6440	1.6440	1.6440	1.6440	0.00
German D-Mark	2.7575	2.7575	2.7575	2.7575	2.7575	0.00
French Franc	9.2025	9.2025	9.2025	9.2025	9.2025	0.00
Italian Lira	2036.27	2036.27	2036.27	2036.27	2036.27	0.00
Dutch Guilder	3.6363	3.6363	3.6363	3.6363	3.6363	0.00
Spanish Peseta	166.67	166.67	166.67	166.67	166.67	0.00
Portuguese Escudo	200.48	200.48	200.48	200.48	200.48	0.00
Irish Punt	7.8756	7.8756	7.8756	7.8756	7.8756	0.00
Greek Drachma	340.75	340.75	340.75	340.75	340.75	0.00
Swedish Krona	10.4656	10.4656	10.4656	10.4656	10.4656	0.00
Norwegian Krone	4.7556	4.7556	4.7556	4.7556	4.7556	0.00
Finland Markka	5.9457	5.9457	5.9457	5.9457	5.9457	0.00
Austrian Schilling	13.7603	13.7603	13.7603	13.7603	13.7603	0.00
Japanese Yen	157.75	157.75	157.75	157.75	157.75	0.00
US Dollar	68.10	68.10	68.10	68.10	68.10	0.00

Commercial rates towards the end of London trading. 51-month forward rate of 12-50 (70p) in 12 months.

## DOLLAR SPOT - FORWARD AGAINST THE DOLLAR

	Spot	1m	3m	6m	12m	% p.a.
UK Pound	1.6440	1.6440	1.6440	1.6440	1.6440	0.00
German D-Mark	2.7575	2.7575	2.7575	2.7575	2.7575	0.00
French Franc	9.2025	9.2025	9.2025	9.2025	9.2025	0.00
Italian Lira	2036.27	2036.27	2036.27	2036.27	2036.27	0.00
Dutch Guilder	3.6363	3.6363	3.6363	3.6363	3.6363	0.00
Spanish Peseta	166.67	166.67	166.67	166.67	166.67	0.00
Portuguese Escudo	200.48	200.48	200.48	200.48	200.48	0.00
Irish Punt	7.8756	7.8756	7.8756	7.8756	7.8756	0.00
Greek Drachma	340.75	340.75	340.75	340.75	340.75	0.00
Swedish Krona	10.4656	10.4656	10.4656	10.4656	10.4656	0.00
Norwegian Krone	4.7556	4.7556	4.7556	4.7556	4.7556	0.00
Finland Markka	5.9457	5.9457	5.9457	5.9457	5.9457	0.00
Austrian Schilling	13.7603	13.7603	13.7603	13.7603	13.7603	0.00
Japanese Yen	157.75	157.75	157.75	157.75	157.75	0.00
US Dollar	68.10	68.10	68.10	68.10	68.10	0.00

Commercial rates towards the end of London trading. 51-month forward rate of 12-50 (70p) in 12 months.

## EURO-CURRENCY INTEREST RATES

	3m	6m	12m	18m	24m	36m	48m	60m	72m	84m	96m	108m	120m
US Dollar	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50
German D-Mark	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50
French Franc	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50
Italian Lira	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50
Dutch Guilder	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50
Spanish Peseta	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50
Portuguese Escudo	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50
Irish Punt	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50
Greek Drachma	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50
Swedish Krona	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50
Norwegian Krone	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50
Finland Markka	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50
Austrian Schilling	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50
Japanese Yen	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50
US Dollar	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50

Long term Eurodollar: two years 9.50 per cent, three years 9.50 per cent, four years 9.50 per cent, five years 9.50 per cent, six years 9.50 per cent, seven years 9.50 per cent, eight years 9.50 per cent, nine years 9.50 per cent, ten years 9.50 per cent.

Short term Eurodollar: three months 5.50 per cent, six months 5.50 per cent, nine months 5.50 per cent, twelve months 5.50 per cent.

Ym per 1,000 French Fr. per 10 Lira per 1,000 Belgian Fr. per 100

## EXCHANGE CROSS RATES

	US Dollar	German D-Mark	French Franc	Italian Lira	Dutch Guilder	Spanish Peseta	Portuguese Escudo	Irish Punt	Greek Drachma	Swedish Krona	Norwegian Krone	Finland Markka	Austrian Schilling	Japanese Yen
US Dollar	1.0000	1.6440	9.2025	2036.27	3.6363	166.67	200.48	7.8756	340.75	10.4656	4.7556	5.9457	13.7603	157.75
German D-Mark	0.6083	1.0000	5.4756	1336.03	2.3636	100.00	120.48	4.3750	173.61	5.9457	2.4756	3.0000	7.4603	163.69
French Franc	0.1087	0.1826	1.0000	340.75	0.2739	6.5596	7.9365	0.1270	1.0000	1.9363	0.7936	0.9756	2.4637	25.64
Italian Lira	0.0005	0.0008	0.0029	1.0000	0.0027	0.0200	0.0244	0.0013	0.0027	0.0200	0.0083	0.0100	0.0254	0.26
Dutch Guilder	0.2739	0.4255	0.7936	0.0027	1.0000	3.7603	4.5364	0.0430	0.0027	1.0000	0.3760	0.4603	1.1803	12.36
Spanish Peseta	0.0060	0.0100	0.0152	0.0200	0.0268	1.0000	1.2048	0.0127	0.0027	0.0268	0.0100	0.0125	0.0312	0.33
Portuguese Escudo	0.0050	0.0083	0.0127	0.0244	0.0327	0.0083	1.0000	0.0100	0.0027	0.0327	0.0125	0.0150	0.0375	0.39
Irish Punt	0.1270	0.2070	0.3906	0.0013	0.0100	0.0127	0.0100	1.0000	0.0027	0.0100	0.0042	0.0050	0.0125	0.13
Greek Drachma	0.0027	0.0046	0.0079	0.0027	0.0027	0.0027	0.0027	0.0027	1.0000	0.0027	0.0011	0.0013	0.0031	0.03
Swedish Krona	0.0952	0.1525	0.2739	0.0027	0.0268	0.0327	0.0083	0.0100	0.0027	1.0000	0.0476	0.0583	0.1463	1.57
Norwegian Krone	0.0200	0.0327	0.0548	0.0013	0.0083	0.0100	0.0013	0.0013	0.0013	0.0083	1.0000	0.1250	0.3125	3.26
Finland Markka	0.0167	0.0271	0.0461	0.0010	0.0069	0.0083	0.0010	0.0010	0.0010	0.0069	0.0083	1.0000	0.2500	2.56
Austrian Schilling	0.0039	0.0063	0.0100	0.0001	0.0008	0.0010	0.0001	0.0001	0.0001	0.0008	0.0010	0.0010	1.0000	0.01
Japanese Yen	0.0064	0.0104	0.0173	0.0002	0.0013	0.0016	0.0002	0.0002	0.0002	0.0016	0.0021	0.0025	0.0063	0.06

Ym per 1,000 French Fr. per 10 Lira per 1,000 Belgian Fr. per 100

## MONEY MARKETS

## Nervous trading

TRADING WAS subdued but nervous on the cash money and financial futures markets in London yesterday. The Public Sector Borrowing Requirement of £16.8m for March was below market estimates of around £2.4bn, but sentiment was mainly influenced by fears of rising inflation. Despite the underlying inflationary worries a firmer pound kept pressure off interest rates. On the other hand

the afternoon. Total help of £709m was provided. An early round of help was offered and at that time the authorities bought £267m bill outright, by way of £104m bank bills in band 1 at 14 1/4 per cent and £163m bank bills in band 2 at 14 1/4 per cent. Before lunch another £68m bills were purchased, via £1m Treasury bills in band 1 at 14 1/4 per cent, £1m Treasury bills in band 2 at 14 1/4 per cent, and £66m bank bills in band 2 at 14 1/4 per cent. In the afternoon £359m bills were bought, through £189m bank bills in band 1 at 14 1/4 per cent, £5m Treasury bills in band 2 at 14 1/4 per cent, and £187m bank bills in band 2 at 14 1/4 per cent. Late assistance of around £15m was also provided.

Bills maturing in official hands, repayment of late assistance and a take-up of Treasury bills drained £407m, with Exchequer transactions absorbing £506m and a rise in the note circulation £10m. These outweighed bank balances above target of £110m.

In Frankfurt, cash money eased to 7.80 from 7.85 per cent as the Bundesbank council left official interest rates unchanged at yesterday's council meeting. The discount rate remains at 6 per cent and the Lombard emergency financing rate at 8 per cent.

Credit was in short supply on the London money market. The Bank of England initially forecast a day-to-day shortage of £900m, but revised this to £850m at noon, and to £880m in

## FINANCIAL FUTURES AND OPTIONS

	Settle	Open	High	Low	Prev
US Dollar	68.10	68.10	68.10	68.10	68.10
German D-Mark	2.7575	2.7575	2.7575	2.7575	2.7575
French Franc	9.2025	9.2025	9.2025	9.2025	9.2025
Italian Lira	2036.27	2036.27	2036.27	2036.27	2036.27
Dutch Guilder	3.6363	3.6363	3.6363	3.6363	3.6363
Spanish Peseta	166.67	166.67	166.67	166.67	166.67
Portuguese Escudo	200.48	200.48	200.48	200.48	200.48
Irish Punt	7.8756	7.8756	7.8756	7.8756	7.8756
Greek Drachma	340.75	340.75	340.75	340.75	340.75
Swedish Krona	10.4656	10.4656	10.4656	10.4656	10.4656
Norwegian Krone	4.7556	4.7556	4.7556	4.7556	4.7556
Finland Markka	5.9457	5.9457	5.9457	5.9457	5.9457
Austrian Schilling	13.7603	13.7603	13.7603	13.7603	13.7603
Japanese Yen	157.75	157.75	157.75	157.75	157.75

Estimated volume total, Cals 3249 Puts 1898  
Previous day's open int. Cals 3250 Puts 1902

## LIFE EURO-DOLLAR OPTIONS

	Settle	Open	High	Low	Prev
US Dollar	68.10	68.10	68.10	68.10	68.10
German D-Mark	2.7575	2.7575	2.7575	2.7575	2.7575



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Continued on Page 49

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**NASDAQ NATIONAL MARKET**[illegible]

ACC	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
ACC	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
ACC	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
ACC	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
ACC	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
ACC	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
ACC	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77																							

**3pm prices  
April 19**

**3pm prices  
April 19**

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**FINANCIAL TIMES**  
EUROPE'S BUSINESS NEWSPAPER

FINANCIAL TIMES



## AMERICA

## Dow stabilises after early decline in bonds

## Wall Street

ANOTHER early fall in the bond market sent equities lower once again but then both shares and bonds stabilised and recovered some of their losses by midsession, writes Janet Bush in New York.

At 2pm, the Dow Jones Industrial Average was quoted 5.63 lower at 2,727.25 on moderately active volume of 103m shares, having stood more than 13 points lower in mid-morning. On Wednesday, the Dow had fallen 32.89 points to 2,732.88, following the collapse of bond prices in spite of news of a sharp narrowing in the US merchandise trade deficit in February.

Both stock and bond markets were hampered by the dollar's slide against the yen. At midsession, the dollar was quoted at ¥156.75 compared with an early high in New York of ¥158.50. The markets

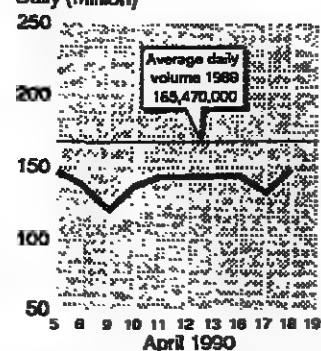
also failed to respond positively to Tokyo's sharp rise over the last two days and remained concerned that inflationary pressures in the US economy would induce the Federal Reserve to tighten monetary policy at some stage.

The Treasury market had been down by around ½ point early in the session, continuing the collapse in prices on Tuesday and Wednesday, but the benchmark long bond had recovered by midsession to stand around ½ lower for a yield of 8.85 per cent.

The market continued to dwell on the 0.5 per cent jump in consumer prices in March reported on Tuesday, which was higher than anyone had expected and came in spite of a significant drop in fuel costs. Corporate earnings reports continued to flood the market yesterday. Among companies reporting was Digital Equipment which jumped 1½% to \$81½ on news that it had net

## NYSE volume

Daily (million)



income in its fiscal third quarter of 20 cents a share, even after a \$150m pre-tax restructuring charge. These results exceeded forecasts.

Comdisco plunged 8½% to \$18½ on the company said that it expected its second quarter earnings to be as much as 25 per cent to 30 per cent lower

than a year ago when it made 60 cents a share.

Oregon Steel Mills added 1½% to \$37½ after reporting net income of 89 cents a share in the first quarter compared with 59 cents a year earlier.

Dayton Hudson fell ½% to \$69½ following news of its agreement to acquire the Marshall Field's department store chain for more than \$1bn from the US subsidiary of Britain's BAT Industries. BAT was up ½% to \$11½ on the American Stock Exchange.

American Express fell ¼% to \$28½ following its announcement of a \$1.50 a share loss due to a \$787m charge against first quarter earnings taken by Shearson Lehman Hutton, its securities subsidiary.

Charles Schwab, the discount broker, fell 1½% to \$147½ after reporting net income of 14 cents a share, down slightly from a year ago and below expectations. Silicon Graphics slumped ¾% to \$30½ despite

the fact that its net income surged 183 per cent from a year earlier.

## Canada

TORONTO stocks fell across the board at midsession as investors became increasingly despondent about the market's outlook. The composite index plunged 49.2 or 1.4 per cent to 3,427.1, a new low for 1990, on volume of 18.01m shares. Declines led advances 447 to 101.

Among active stocks, Canadian Imperial dropped 3½% to C\$24½ and Seagram fell 3½% to C\$24½. Oil shares dropped as the crude price weakened, with Saskatchewan falling 3½% to C\$12½ and Total Petroleum losing 3½% to C\$11½. Maple Leaf Gardens dived 3½% to C\$33 on news that its majority shareholder, Harold Ballard, who died recently, left his stake to a charitable trust fund.

## ASIA PACIFIC

## Nikkei rises confidently as volume nearly doubles

## Tokyo

CONFIDENCE came back to Japanese equities yesterday, as the yen edged up against the dollar. Turnover virtually doubled and a wave of buying took the Nikkei average above 30,000 at one stage, writes Michiko Nakamoto in Tokyo.

Riding on Wednesday's success, the market took off to a flying start, posting a 400-point gain in the first 15 minutes of trading and keeping up the momentum all day.

After moving between a low of 29,288.35 and a high of 30,034.45 in mid-afternoon, the Nikkei closed 696.35 up at 29,945.41. Advances led declines by 855 to 141 with 103 unchanged. Turnover rose from 485m to 963m shares. The Toxix index of all listed stocks advanced 45.53 to 2,213.49 and in London, the ISE/Nikkei 50 index rose 7.00 to 1,720.59.

The yen's strong advance against the dollar, on the overnight New York market and during the day in Tokyo, had buoyed investor confidence in both bonds and equities, said Mr Shinji Yokoyama at Credit Suisse Investment Advisory.

This strength was the more uplifting because investors had expected that a reduction in the US trade deficit would lead to buying of the dollar. They were increasingly convinced that the worst was over, he said, and that a bottom had been reached, at least for now.

There was widespread talk that the authorities were encouraging Japanese institutions to unload their US treasury holdings and support the yen. In the recent past, faced with slumping markets at home, the institutions have been persistent sellers of US treasuries. "You have to take your profits where you find them," said one foreign trader.

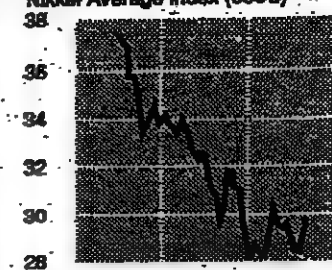
Yesterday's buying spree was led by issues supported by domestic demand, particularly the big steel and shipbuilders. Interest in these was due to their bargain prices and to the yen's recovery; the Stock Exchange suspended trading in some stocks to restore order.

Nippon Steel closed ¥20 higher at ¥611, while Mitsubishi Heavy Industries added ¥28 to ¥688. Electricals succumbed

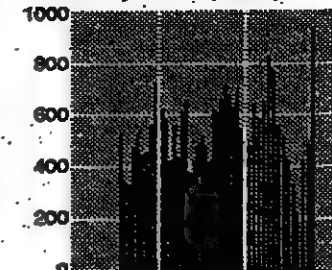
to profit-taking as Sony lost ¥90 to ¥8,310, NEC ¥40 to ¥5,080 and Pioneer ¥120 to ¥5,980. "It's not their market," said one salesman. "The market's all of a sudden gone domestic."

## Japan

Nikkei Average Index (000's)



Turnover by volume (million)



Osaka saw similar enthusiasm supporting a gain in the OSE average of 669.65 to 31,732.79. Volume rose from 42.7m to 59.6m shares.

## Roundup

PERFORMANCE in the region was mixed yesterday, with depression out of fashion in Hong Kong, South Korea, Seoul, and Taiwan demonstrating its volatility on the downside.

HONG KONG rose for the fifth day in a row on continued overseas demand for blue chips, but the market was restrained by declines in banks and utilities. The Hang Seng index rose 15.32 to 3,967.67. Turnover grew to HK\$4.58bn, the highest level since early February, from Wednesday's HK\$1.55bn.

Hongkong Bank dropped 15 cents to HK\$6.15 following news late on Wednesday that first quarter profits at its US subsidiary, Marine Midland Bank, plunged 86 per cent to

US\$8m. TAIWAN fell for the sixth consecutive session but came off the day's lows on last-minute buying. The weighted index shed 163.83 to 8,830.57 after a low of 8,652.57. Volume rose to NT\$84bn from NT\$80bn. The market was still depressed by weakness in the banking sector due to the Government's current sale of part of its stakes in three commercial banks, which will drain nearly NT\$50bn from the market.

SEUL fell across the board as investors sold to settle stock transactions. The composite index lost 13.22 to 768.31, the lowest level since November 1988, on weak volume of 7.8m shares valued at 136.7bn won. Dealers feared that the market would face a serious crisis if the index went below 750.

NEW ZEALAND fell at the start, following Wall Street's drop, but recovered thanks to offshore buying of leading stocks and Tokyo's gains. The Barclays index rose 8.94 to 1,227.61. Turnover improved to 8.6m shares valued at NZ\$17.8m from 7.6m shares valued at NZ\$12.3m.

Goodman Fielder Wattie recovered 7 cents to NZ\$1.95 and Brierley Investments rose 2 cents to NZ\$1.61, after news that it planned to bid for a majority interest in the state-owned Telecom Corp.

AUSTRALIA was dragged down by Wall Street and by a rising local dollar, which weighed on mining stocks. But Tokyo's rise helped pull prices off their lows, and the All Ordinaries index rebounded from 1,490.9 to close 6.4 lower at 1,485.0. Turnover rose to 75m shares and A\$205m from 68m and A\$174m. CRA, ex dividend of 38 cents a share, shed a net 13 cents to A\$11.05.

SINGAPORE slipped as stop-loss selling hit a thin market. Turnover fell to 31.7m shares, worth S\$64.8m, from Tuesday's 34.2m shares, worth S\$80.8m. The Straits Times Industrial index lost 5.09 to 1,839.02.

KUALA LUMPUR also fell as turnover shrank to 20.5m shares from 23.7m; the composite index eased 5.92 to 546.47. BOMBAY fell on end-of-account considerations; the BSE index losing 14.61 to 759.15 after two days of rises.

## EUROPE

## New York weakness leaves bourses subdued

WEAKNESS on Wall Street counted for more than Tokyo's recovery in influencing continental sentiment yesterday, and bourses were mostly in a subdued mood, writes Our Market Staff.

FRANKFURT closed above its intrasession lows, the DAX index ending 10.89, or 0.6 per cent, lower at 1,578.87 after a fall of 9.10, or 1.1 per cent, in the FAZ at midsession. Volume fell from DM6bn to DM5.5bn.

Wall Street's weakness mixed with ongoing nervousness about German monetary union. Blue chips led the market lower, as Siemens dropped DM3 to DM762, Daimler DM13 to DM849 and Deutsche Bank DM4.50 to DM787.

Siemens replaced Mannesmann at the top of the individual volumes chart, in turnover of DM683m. Mannesmann stayed high on the list, third with DM464m and falling another DM2 to DM367, although a number of its followers said worries over its Brazilian interests had been overstated.

Signs of resilience elsewhere were exaggerated by a thin market. Among the insurers,

Allianz rose DM28 to DM2,470 and Munich Re DM22 to DM2,252, but it took only small buy orders to achieve this effect. In chemicals, BASF was steady at DM311 after raising its dividend to DM13, plus a DM1 bonus, from DM12.

PARIS showed resistance in the face of a weak bond market. Wall Street's declines and profit-taking before the end of the monthly trading account today, regaining most of its early losses to close only slightly lower on international buying. The CAC 40 index ended 1.56 down at 2,097.12, after falling to 2,072.77 earlier.

Turnover was estimated as less than the previous day's level at FF2.3bn, supported by volume in CGE, which dropped FF13 to FF817 with 390,100 shares traded after it announced details of a FF5.6bn convertible bond.

The retail sector attracted interest, with Docks de France gaining FF219 to FF4,119 after its recent underperformance, and CFAO rising FF15 to FF780 after Tuesday's news of the sale of La Roche Meridionale, the retail group, to Casino. Volume in CFAO was

relatively heavy, with 61,760 shares traded.

Peugeot gained FF12 to FF799 on 287,400 shares after the previous day's results. Analysts were encouraged by the company's less pessimistic forecasts for the current year. GTM-Entrepose lost FF40 to FF1,440 on profit-taking, after rising on the previous day's news of an increase in earnings and a bullish statement on its order books.

MILAN eased as professional squared positions, anticipating a volatile market in the next two weeks when several national holidays occur and in the run-up to the May local elections. But local brokers expected the market to regain its strength after the elections, as companies paid out dividends for 1989 and the publicity for the World Cup series started.

Volume shrank as international and domestic investors retreated to the sidelines. The Comit index fell 6.01 to 707. Oil vented, closing L7 higher at L7,250 and rising to L7,285 in the after-market on continued speculation of a link-up with Phillips, the Dutch

group, and rumours that the company's 1989 results, due on April 27, would not be as dire as analysts expected. Montedison also bucked the general trend, adding L13 to L2,020 at the close and reaching L2,038 after-hours.

AMSTERDAM was disappointed with transport group Nedlloyd's 1989 profits, which were boosted by extraordinary items, and the company's forecasts that 1990 operating profits would be flat. The stock fell FL11.50 to FL95.90. In the same sector, Internatio-Mueller was stable at FL96 before reporting a 27 per cent rise in 1989 profit to FL56.1m after the market closed. The CBS standard index dropped 1.4 to 118.8 in thin business.

STOCKHOLM was led higher by the engineering stock, Alfa Laval, which was the subject of a favourable US magazine report. Its free B shares rose SKr3 to SKr220. Interest in Ericsson remained strong although the free B shares fell SKr3 to SKr911 after hitting a high of SKr918. The weighted Affarsvärlden General index rose 6.0 to 1,159.5.

ZURICH hit on one news

item, and seemed to ignore another. Ascom, the telecoms company, rose SF750 to SF7,050 after it said it planned to eliminate 1,000 jobs in Switzerland over the next two years. In foods, Jacobs Suchard bearers fell SF550 to SF6,900, although it forecast a sharp rebound in profits this year. The Credit Suisse index fell 4.0 to 598.3 in light trading.

MADRID attracted profit-taking after its recent strength, with the general index losing 0.33 to 275.69 by the end of pit trading and slipping to 274.33 by the close of the continuous session. Banesto edged up Ptas to Ptas3,800, with one block of 215,500 shares traded. The bank signed a co-operation agreement with Banco Ambrosiano Veneto of Italy on Wednesday.

## SOUTH AFRICA

STRONGER GOLD shares led Johannesburg higher after a rise in the bullion price to about \$377, but trading stayed thin. The JSE overall index rose 14 to 3,112. Vaal Reefs firmed R6 to R361 but De Beers fell 40 cents to R35.90.

## Switzerland begins to catch up

Jacqueline Moore examines European turnover figures for March

MARCH WAS a stable month for European bourses in terms of turnover, with only Switzerland making a significant improvement. West Germany remained extremely busy, although some other continental markets showed signs of attracting a larger slice of the investment action.

Most bourses again decided that Tokyo's wild swings were of interest mainly to the Far East. There was some nervousness, but trading volumes were steady throughout most of Europe. Slight gains over February's levels in West Germany, France and the UK can be attributed to the fact that there were two more trading days last month.

West Germany was very active once again, as the opening up of East Germany continued to occupy investors' minds. Turnover last month rose by 5.7 per cent over February - a huge increase compared with the DM63.9bn recorded in March 1989. In dollar terms, German turnover reached \$132.2bn, more than

## EUROPEAN EQUITIES TURNOVER

Monthly total in local currencies (bn)

Bourse	Dec 1989	Jan 1990	Feb 1990	Mar 1990	US \$bn
Belgium	58.7	52.2	57.2	50.8	1.7
France	131.7	129.1	103.6	107.0	16.9
Germany	157.1	224.4	211.0	223.0	132.2
Italy	13,640	21,228	14,377	15,913	12.8
Netherlands	10.6	18.3	12.4	12.4	6.5
Spain	443.4	487.0	381.1	368.4	3.4
Switzerland	15.4	20.4	20.0	24.4	16.3
UK	27.1	30.7	27.8	25.5	39.2

Volumes represent purchases and sales. Swiss and Belgian data estimated. Italian data adjusted to include all-market trading. Some figures may be revised. Source: County NatWest/Wood.

three times as high as in the UK market, and nearly seven times bigger than in France.

March was the month of the East German elections; turnover slipped before the March 18 poll, but picked up again immediately afterwards. On the 19th, for example, turnover more than doubled from the previous trading day's level to DM13.9bn. Frankfurt's key indices, the FAZ and the DAX, hit records at the end of the month, with active domestic and Japanese buying.

Switzerland began to catch

up with the pace of trading in West Germany and enjoyed its busiest month since July last year. Turnover shot up by 22 per cent in March from February's figure. "Switzerland had been extremely feeble (in terms of volume) and weak in terms of price, but domestic and foreign buying last month helped turnover to rise to more normal levels," says Mr James Cornish of County NatWest.

The market also responded to specific news stories, which generated volume but did not move the stock index significantly. For example, a rights issue announced by Brown Boveri, the engineering company, on March 22 caused selling of the stock, followed by a wave of buying at the cheaper price level, says one observer.

Other stocks attracting active interest included those in the mechanical engineering and building sectors, which gained from their prospects in East Germany.

France looked rather dull in March, but turnover nevertheless rose 3.1 per cent above February's level. Foreigners had not yet rediscovered the market in great numbers, choosing to concentrate on West Germany, before the Bank of France cut its intervention rate on April 2.

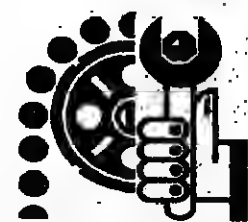
Turnover in Italy picked up as the big Italian unit trusts took some money out of the market, while some foreign buying interest returned, according to Mr Cornish. Belgium, February's winner in volume terms, fell 9.5 per cent in March, but remained lively compared with December and January.

## FT-ACTUARIES WORLD INDICES

Jointly compiled by The Financial Times Limited, Goldman, Sachs & Co., and County NatWest/Wood Mackenzie in conjunction with the Institute of Actuaries and the Faculty of Actuaries

NATIONAL AND REGIONAL MARKETS	WEDNESDAY APRIL 16 1990						TUESDAY APRIL 17 1990				DOLLAR INDEX		
Figures in parentheses show number of stocks per grouping	US Dollar Index	Day's Change %	Pound Sterling Index	Local Currency Index	Day's change % local currency	Gross Div. Yield	US Dollar Index	Pound Sterling Index	Local Currency Index	1980 High	1990 Low	Year ago (approx)	
Australia (81)	134.88	+0.4	122.12	116.94	+0.2	5.92	134.28	121.80	116.73	158.31	133.38	131.23	
Austria (19)	279.80	-0.2	253.15	242.90	-0.6	1.10	280.25	254.21	244.45	285.83	193.15	122.45	
Belgium (61)	148.36	-0.1	134.33	126.77	-0.4	4.55	148.32	134.71	127.27	160.02	132.11	135.70	
Canada (100)	135.78	-0.5	122.94	114.00	-1.0	3.62	136.47	123.79	115.49	163.11	131.78	155.95	
Denmark (36)	248.26	-0.4	224.77	215.08	-0.9	1.50	249.21	226.05	217.01	260.82	238.69	177.54	
Finland (26)	136.36	+0.4	123.48	113.74	+0.0	2.41	135.87	123.24	113.72	152.29	130.39	157.08	
France (126)	165.21	-0.7	148.58	146.84	-1.0	2.72	166.43	150.96	147.18	165.43	141.69	122.15	
West Germany (84)	134.35	-0.7	121.84	116.78	-0.9	1.85	135.29	122.68	117.93	137.77	122.06	88.49	
Hong Kong (18)	125.92	+0.8	114.01	125.99	+0.8	4.94	124.87	113.28	124.96	125.92	112.24	133.45	
Ireland (17)	168.56	+0.2	171.09	168.15	-0.3	2.59	168.00	171.07	166.61	198.57	181.49	150.50	
Italy (80)	103.73	+0.6	90.32	95.13	+0.2	2.42	103.12	93.53	94.51	103.73	91.85	83.26	
Japan (54)	132.70	-0.6	120.15	133.46	+0.6	0.62	125.45	117.42	130.84	197.26	124.40	102.40	
Malaysia (13)	215.80	-0.8	195.39	226.90	-0.7	2.38	217.02	196.86	228.39	245.32	206.65	176.34	
Mexico (13)	410.55	-0.2	371.72	1250.35	-0.2	0.41	411.54	371.29	1253.34	411.54	324.53	172.31	
Netherlands (43)	141.94	+0.8	126.51	121.98	+0.5	6.63	140.84	127.75	121.36	145.68	130.43	122.22	
New Zealand (17)	61.84	+0.5	55.99	56.74	+0.5	7.73	62.12	56.35	57.00	75.36	50.31	68.07	
Norway (25)	231.52	+0.6	208.82	204.55	+0.2	1.63	230.03	208.85	204.19	245.50	202.34	193.35	
Singapore (26)	190.66	+0.4	172.82	165.04	+0.4	1.82	189.99	172.33	164.42	199.38	170.70	154.78	
South Africa (60)	164.98	+0.7	167.12	159.79	-0.1	3.70	163.30	166.27	159.95	251.89	190.87	143.22	
Spain (42)	153.32	+2.9	130.82	123.16	+2.3	4.51	149.02	135.17	120.40	165.19	132.84	155.04	
Sweden (35)	185.10	+2.1	168.59	168.81	+1.8	2.36	181.35	164.49	164.11	206.96	171.89	155.99	
Switzerland (65)	111.68	+0.1	82.91	84.22	-0.3	2.93	91.48	82.98	84.51	89.12	88.75	77.28	
United Kingdom (308)	146.71	-0.1	132.83	132.83	-0.3	4.57	145.90	133.25	133.25	164.31	144.69	148.29	
USA (157)	137.79	-1.2	124.76	137.79	-1.2	3.48	139.41	126.45	139.41	145.40	130.61	124.94	
Europe (900)	141.43	+0.0	128.05	124.68	-0.3	3.54	141.48	128.33	125.28	146.86	135.57	121.36	
Nordic (122)	189.24	+0.8	171.54	160.84	+0.4	1.83	187.71	170.26	160.28	201.89	185.01	154.65	
Pacific Basin (186)	132.49	+2.4	119.96	132.40	+1.9	0.96	129.44	117.41	129.96	192.75	124.83	103.74	
Asia (100)	136.69	+0.5	123.55	130.66	+0.2	2.02	134.74	123.43	124.74	163.14	131.42	103.74	
North America (657)	137.57	-1.1	124.56	136.25	-1.1	3.48	137.13	125.20	137.83	145.78	131.02	125.50	
Europe Ev. UK (164)	136.21	+0.3	123.33	123.43	-0.3	2.71	136.16	123.57	119.82	136.21	124.81	104.90	
Pacific Ex. Japan (207)	132.24	-0.5	117.01	116.93	-0.3	5.18	128.82	116.62	116.44	138.32	126.77	127.84	
World Ev. Ex. Japan (184)	137.57	-0.5	124.16	132.17	+0.9	2.11	135.95	122.77	129.07	173.77	131.30	157.96	
World Ex. Japan (207)	135.23	+0.5	125.43	132.59	+0.4	3.64	134.61	123.34	126.10	163.04	130.40	157.96	
World Ex. So. Af. (232)	135.94	+0.4	129.08	132.38	-0.1	2.58	135.40	122.82	132.19	161.84	131.86	140.25	
World Ex. Japan (1827)	139.45	-0.6	126.26	132.19	-0.8	3.57	140.31	127.27	133.19	145.52	135.25	124.36	
The World Index (2381)	136.24	+0.4	123.35	132.57	+0.1	2.59	135.69	123.08	132.96	162.05	132.25	125.07	



FINANCIAL TIMES  
SURVEY

Prospects for the international gas industry are looking increasingly bright, even though there

are longer-term uncertainties for many sections of the industry, as Steven Butler explains here.

## Confidence is rising

OPTIMISM has rarely run so high in the worldwide natural gas industry. On both sides of the Atlantic, forecasters are busily cranking out ever higher demand-growth numbers, ranging into the next century.

The reason is simple: gas is the most environmentally benign of all the world's principal energy sources. For the same amount of energy, gas produces only half the carbon dioxide of coal, and two-thirds that of oil. Although gas often contains sulphur when produced, this serious pollutant is removed with relative ease before combustion. Particulate matter and nitrogen oxides emissions are small.

Meanwhile, new technologies have increased the economic attractions of gas by sharply lifting efficiency. Combined-cycle gas turbine technology can achieve thermal efficiencies of close to 60 per cent for electricity generation. Technologies on the drawing board promise theoretical efficiencies of 80 per cent, which can be lifted still higher when waste heat is used for space-heating purposes.

When compared to the best that can be achieved for coal - 37 per cent, plus the cost of cleaning up emissions from coal-fired stations - the advantages of gas are obvious. It is no accident that the biggest growth area in everyone's forecasts is gas burned for

power generation. In Washington, the American Gas Association (AGA) is now talking about the possibility that US consumption could rise by more than 50 per cent by the year 2010 to 30 quads (roughly equivalent to 30 trillion cubic feet, tcf).

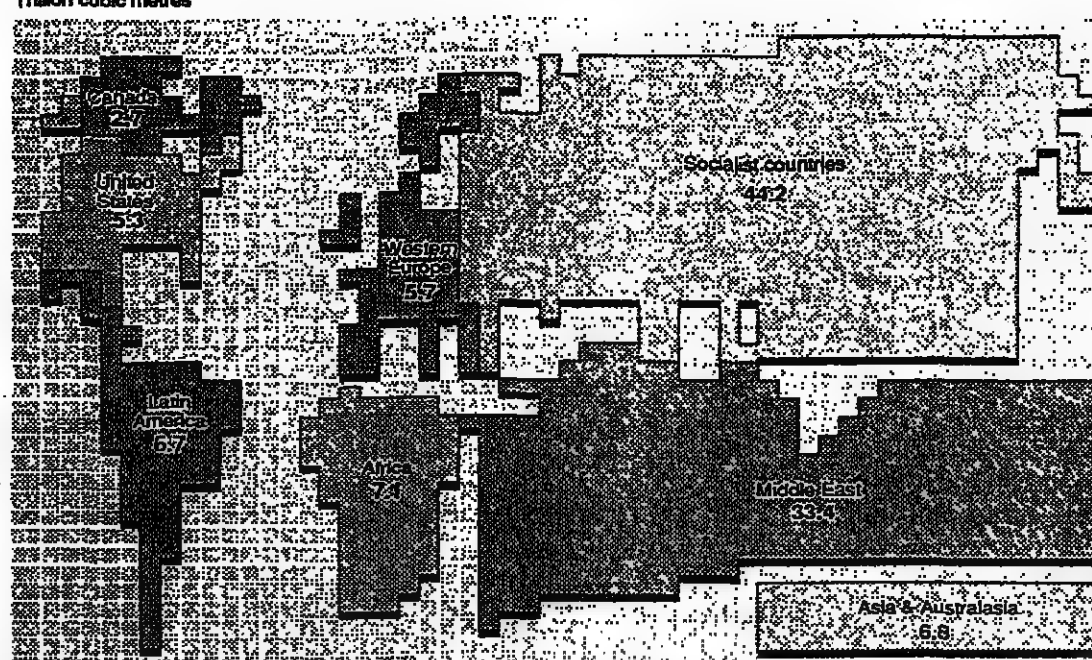
In Europe, some oil companies are looking at a possible increase of similar magnitude to 350bn cubic metres (bcm) annually in 30 years. These are enormous increases and they beg the question of whether the gas industries in either Europe or North America are prepared to respond, or indeed, whether these high case scenarios are in any way realistic.

The questions are obviously linked. The worldwide oil industry is still suffering financially from the last time it believed and acted on the basis of optimistic demand forecasts. It will undoubtedly want to see clear evidence of firm prices and secure markets before plunging in again.

Yet excessively high prices could kill demand. Optimism about future consumption trends is supported by a growing consensus that the world's reserves of natural gas may be more abundant than was previously thought. Gas was once a nuisance, encountered in the search for oil. Yet it has now become a prize if found close to markets or near to developed infrastructures.

### Natural gas: proved reserves (at end 1988)

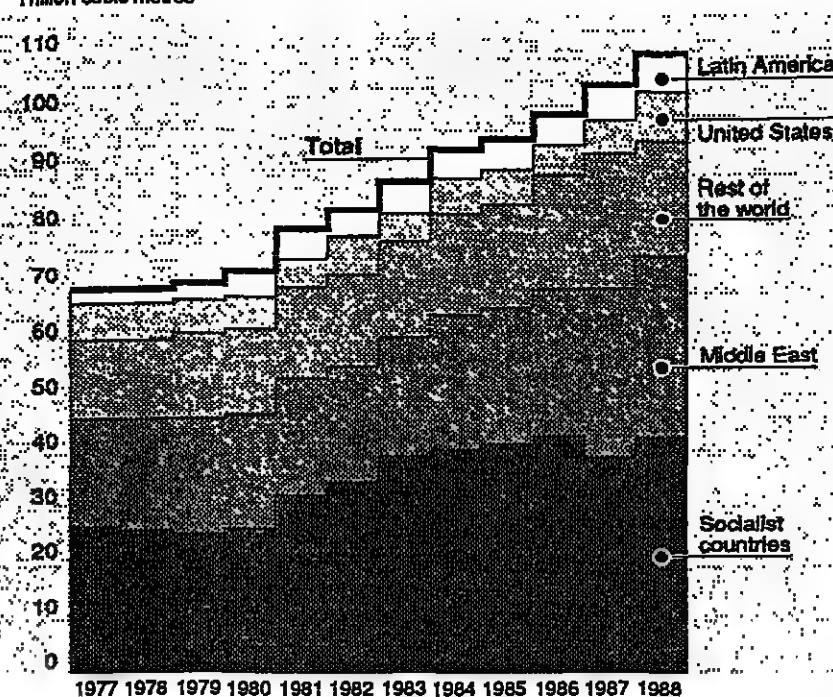
Trillion cubic metres



Source: BP

■ The Soviet Union and the Middle East dominate the world map of proven reserves of natural gas. Together, they account for nearly two-thirds of the world's reserves.

Trillion cubic metres



■ Natural gas reserves have shown a steady upward trend through the last decade, with most of the growth being registered in eastern Europe - predominantly, the Soviet Union.

## THE GAS INDUSTRY

If these estimates are accepted, and combined with the large proven reserves in Canada, Mexico, and Venezuela, which could supply the US market, local and regional gas reserves are potentially abundant.

Yet estimating and finding reserves is one thing, delivering them to market is another. The US has still not settled down from a decade of regulatory turmoil that has produced the big US gas transmission companies into operating as open-access carriers, transporting gas on a non-discriminatory basis for any third party.

The system allows large consumers at the end of a pipeline to choose among competing suppliers and makes gas-to-gas competition a reality.

Open access transportation took root during a period of abundant supplies, weak prices, and falling consumption, all of which left pipelines searching for ways to lift gas throughput.

Although officials in Washington, who pushed through changes in the regulatory system, dismiss suggestions from sceptics that it may not cope effectively during a period of rising demand and tightening

supplies, this remains to be proven.

In Houston, the gas production capital, there is continued dependency, over persistent low prices, the ultimate cause of depressed drilling levels, and fear that an eventual tightening of the market could cause prices to soar and provoke Congressional interven-

It remains an open question whether the full theoretical benefits of competition will ever be realised in the UK when British Gas so dominates the market. The ending of British Gas's purchase monopoly and allowing others to build competing pipelines may turn out to be at least as important factor for competition as fore-

supplies for Europe. Opposing this, however, the European chemicals industry looks with envy on US companies' ability to negotiate directly with a gas supplier of choice. They argue that lower prices would stimulate demand and that the supply would be forthcoming on a scale the current system could not match.

The outcome of the debate in Europe, which will be decided by the European Parliament and the Council of Ministers, is impossible to call. Should common carriage be introduced, however, just as in the US and the UK, the changes would certainly lead to unpredictable consequences as system continues to be refined until it works. The simplest part of the gas industry equation appears to be demand. Yet while the direction is clear, the magnitude of potential growth remains in a deep fog.

Uncertainty is generated by the slow pace by which environmental legislation and regulations wind their way through the political process.

Adventurous schemes for gas, such as using compressed natural gas as a vehicle fuel, must await government direction. This already appears an

attractive option for urban mass-transit vehicle fleets, where air pollution is a severe problem. The AGA calculates that natural gas is only about 64 per cent the price of petrol, enough to compensate for the cost of converting engines. There is even talk of installing fuel switching capability on vehicles so that consumers can choose the cheaper fuel. However, some environmentalists worry that running the family car on natural gas would increase the danger of methane escaping into the atmosphere.

In the US, the demand picture is beginning to clear with Senate approval for the Clean Air Act. Yet until the bill makes its way through the House - and more is known - industries looking at energy-intensive investments will not be able to calculate the cost-variables of different fuels.

Similarly, in Europe, the full cost to the user of burning more highly polluting fuels is only gradually becoming clear. A sharp rise in oil prices, which many expect, would drive up the price of gas and make coal more attractive.

These uncertainties - running from production to delivery and final demand - will make the coming years full of risk for many participants in the industry. Yet they do not change the broad outlook that natural gas is on a path of growth.

ON OTHER PAGES	
■ European suppliers: West Germany; Norway	page 2
■ US gas industry: key indicators	page 4
■ Electrical power generation; environmental issues; industrial gas in the UK; prospects for British Gas	page 5

Editorial production: Michael Wiltshire

tion. Mr Martin Alliday, recently appointed chairman of the Federal Energy Regulatory Commission, has expressed concern about the death of long-term contracts which open access has brought about.

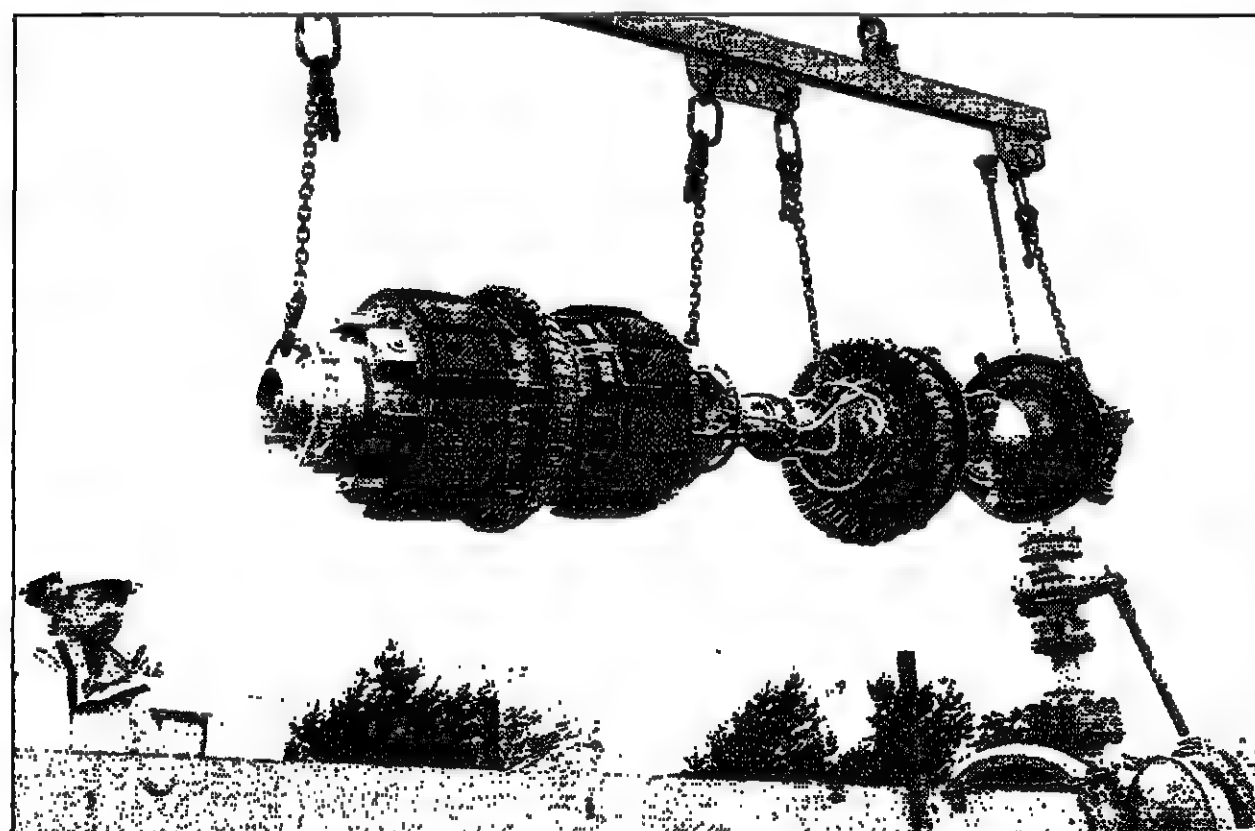
Britain has also embarked on its own open-access experiment in which British Gas is required to transport gas for supply to industrial customers. Because British Gas is an integrated monopoly, with no competitors yet in gas transmission or local distribution, the shape of gas competition in the UK will be very different.

ing British Gas to transport gas for others.

On the continent, the gas industry has launched a vigorous campaign to defeat EC moves to open up the European industry to mandatory common-carriage rules. A draft proposal that would require pipelines to carry gas for other pipelines is seen as the thin edge of a wedge that would open the industry completely.

The gas industry has argued that mandatory common carriage is incompatible with the billions of dollars in investment needed to develop new

## OUR NAME NEEDS NO INTRODUCTION



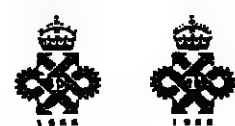
## OUR REPORTS NEED NO INTERPRETATION

As the owner and operator of 17,000 kilometres of high pressure gas transmission pipeline, British Gas is acutely aware of the critical importance of maintaining a supply system in a sound structural condition.

Such considerations have led to the development by its On Line Inspection Centre of the world's most technologically advanced on-line inspection system which accurately identifies pipeline defects without disrupting delivery schedules.

Dimensions are given for pipeline corrosion and metal loss features, and detailed reports of pipeline condition can be presented in a variety of formats. These options permit the pipeline engineer to determine immediately the operational integrity and maintenance priorities of all oil and gas systems without the need for any form of secondary investigation.

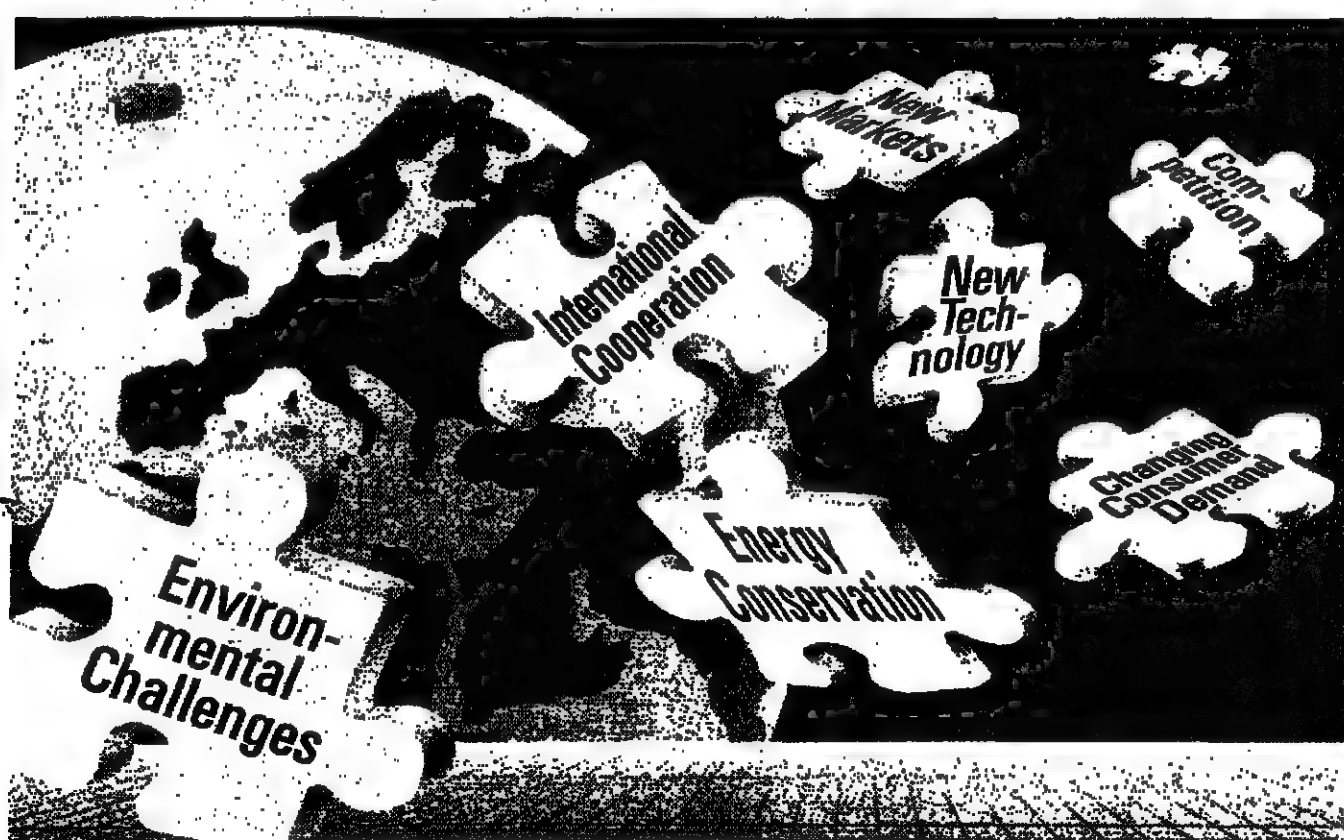
When your reputation is on the line - you can depend on On Line Inspection by British Gas.



**British Gas**

British Gas On Line Inspection Centre, Crumlington, Northumberland NE23 9EQ  
Telephone: (0670) 713401. Telex: 537945. Facsimile: 0670 735893.

THE INTELLIGENT ALTERNATIVE IN ASSESSING DEFECT SIGNIFICANCE



## The way to solve the future puzzle

Nobody can accurately predict the future opportunities and risks for the international gas industry. But risks can be lessened and opportunities increased by cooperation with an organisation of international stature and achievement.

Ruhrgas is a large and experienced participant in the international gas business. As the most significant supplier in West Germany - Europe's largest net importer of natural gas - Ruhrgas has been instrumental in the growth of international gas trading.

Within West Germany Ruhrgas has vigorously and continuously promoted the application of natural gas in a competitive energy market.

Over the years, Ruhrgas has pioneered many of the key developments in the gas industry

and has advanced the cause of the environment. Ruhrgas works to serve the interests not just of its customers but of its suppliers as well - working reliably and efficiently to ensure that everyone shares the benefits of natural gas.

The future complexities facing the international gas industry and the need for competence and experience define the natural solution - cooperation with Ruhrgas.

Ruhrgas Aktiengesellschaft · Huttropstr. 60  
4300 Essen 1 · West Germany

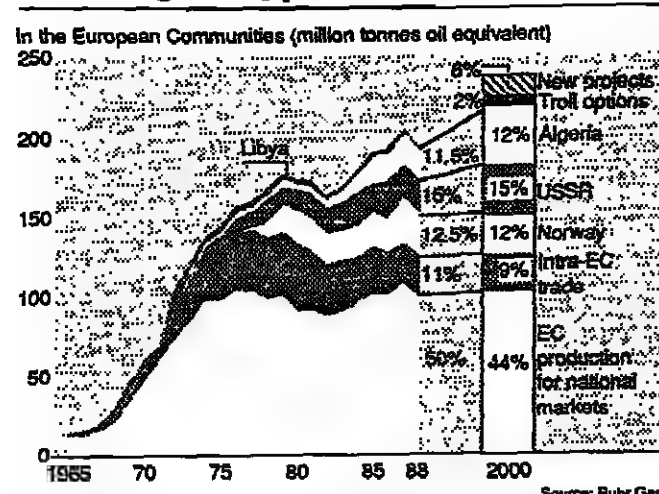
**Ruhr gas**

Delivering the benefits of natural gas

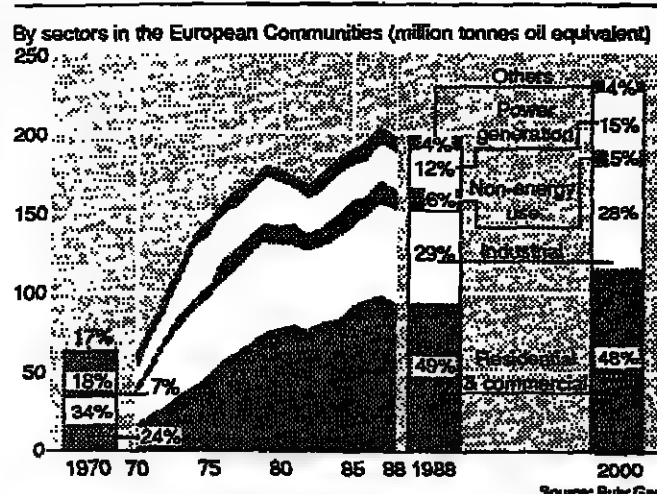


## THE GAS INDUSTRY 2

## Natural gas supplies



## Natural gas consumption



Steven Butler on problems facing the European gas industry

## Anxiety among suppliers

ALMOST to a man, Europe's gas industry - from producers to gas transmission companies - has shivered in horror at the thought that what has happened in the US could ever happen on the continent.

Yet under the banner of promoting competition and cross-border trade, the European Commission may force open the pipelines to third party transporters paying a fee for service, much as in the US today.

Currently, pipelines act as merchants, purchasing gas passing through pipelines and selling it to customers within territorial monopolies.

EC bureaucrats ideologically disposed to free markets are leading the reform. They are supported by the European chemical industry whose motive is far simpler: it wants cheap gas.

The simple step of requiring pipelines to transport gas for others is far more revolutionary than it appears. The European gas industry has been built and financed on the basis of long-term contracts lasting up to 25 years.

The contracts have proved flexible instruments that have adjusted to changing market conditions: when oil prices sank, gas producers accepted lower prices and volumes stayed high.

The security of these contracts helped mobilise billions of dollars in finance to develop fields and build delivery systems from Siberia, Norway and Algeria. Transmission companies, such as Ruhrgas in Germany, Gaz de France, or SNAM in Italy, have confidently made long-term commitments because they had control over a geographic market.

They now fear that if customers have rights to purchase gas direct from suppliers, they

will lose market share and default on purchase commitments with producers. This is precisely what did happen in the US, leading to billions of dollars in liabilities. The pipelines argue further that future large-scale development of the transmission network will be impossible to finance without long term contracts. Other industries cannot make such commitments. These arguments are surely valid as far as they go. Yet industry critics also have a powerful case. The chemical industry says it does not need the same bundled ser-

vice aimed at achieving the security of supply required by household and commercial customers. Why should it be forced to pay for it?

Mr Alan Wilson, of Dow Chemical, argued at a recent conference that the industry displays many of the undesirable features of monopoly. Prices, for example, are set at the maximum determined by the alternative fuel - rather than by competition among suppliers.

CEFC, the federation of European chemical industries, says the gas industry has invested in massive redundant storage capacity to meet unlikely contingencies. These costs are passed on to customers, whether they need this insurance or not.

Mr Jonathan Stern, a gas specialist at the Royal Institute of International Affairs, argues in the similar vein. He says that open access and the choice of direct purchase would reduce security of supply for the consumer. Yet he

believes that this is a choice the consumer ought to be able to make. The arguments for and against open access have been played out in increasingly polemical tones. The EC commissioned Coopers and Lybrand to look at the debate. The study was not a robust defence of open access. Indeed to many readers it looked like a systematic critique. None the less the EC asked for a follow up to quantify potential benefits of open access, assuming the potential could be realised. These were found to be about two per cent of gas costs. Com-

panies fear that regulation, once begun, may become an increasingly intrusive and expensive burden that could outweigh any theoretical benefits.

Mr James McKinnon, the UK gas regulator in charge of Ofgas, while broadly in favour of open access, is not sanguine about the prospects of achieving this on a European-wide basis. For one, the structure of the gas industry in different European countries differs sharply, from the integrated statutory monopoly in France to the fragmented, unregulated industry in Germany.

A single regulatory regime would have widely different impacts in the different countries and achieving consistency and the "level playing field" for competition would be exceedingly difficult.

For another, the current structure of the industry has broad political support in many of the EC countries. Overcoming political opposition to change would be very difficult. Just as important, however, is the lack of integration among the national gas grids. These grids have been developed to serve national markets in an integrated fashion. Although cross-border transit and trade of gas is widespread, the system as currently configured may not have the technical flexibility found in the US to handle rapid shifts in the pattern of gas trade.

To achieve this would require new investment in pipelines and compressor stations, particularly in Germany which, because of geographical position, would be the main interchange of the European gas industry.

The different calorific values of Dutch and other gas would also be an obstacle to fuller integration.

## WEST GERMAN MARKET

## Preparing for battle

A BATTLE over the future of the West German gas market is shaping up in the backyard of Ruhrgas, the biggest of the German gas companies and one of the dominant players in Europe.

Wintershall, part of the BASF chemicals group, is proposing to build a 560km pipeline from Emden to Ludwigshafen that would put it in position potentially to compete directly for Ruhrgas customers.

Oddly enough, Ruhrgas appears to like the idea, or at least some of the principles behind it. Ruhrgas knows, of course, that the odds may be against the Wintershall pipeline ever being built. But to have a bit of prospective gas-to-gas competition on the horizon just when the EC is proposing to reform the industry helps its argument that in Germany, at least, the gas industry is competitive.

The German market is unique in Europe. Germany has no statutory monopolies on the purchase, sale, or transport of gas. There are 25 private companies owning high pressure pipelines operating in an almost completely unregulated environment, and over 500 local distribution companies.

Even supply to residential and commercial customers, where gas has a 24 per cent market share, is unregulated, with one exception: supply to new households cannot be discounted.

In order to capture new business in the household sector, gas must be priced competitively against heating oil, elec-

tricity and district heating schemes.

The German Government, unlike others, has always accepted that inter-fuel competition both in the household and industrial sector provides sufficient competition to stimulate an efficient industry and protect consumers. This, it figures, is far less of a burden than government regulation.

The pipelines do not compete against each other, as demarcation agreements (which expire in 1994) define what amount to territorial monopolies in practice.

Yet, as Ruhrgas tirelessly points out, any customer unhappy with the gas which Ruhrgas offers for sale is free

to build a pipeline and do it better or more cheaply.

In the absence of the Wintershall proposal, this sounds very much like an empty offer because market entry barriers are so high. It is one thing to build a gas supply system, as Ruhrgas did, where none existed - quite another to challenge Ruhrgas's overwhelming position in a market that bears many characteristics of a natural monopoly, although in theory European competition law could be used against a gas company found to be abusing a dominant position.

Building a pipeline to serve only one company is also uneconomic because sufficient economies of scale cannot be

achieved without much higher volumes. Even so, Ruhrgas's main point, at which it hammers away with tireless German consistency, is that its shareholders have put private capital at risk. Others ought not to be able to benefit from Ruhrgas investments without paying a market price - a price determined by inter-fuel competition.

If others do not like it, they are free to risk their capital in the same way. Ruhrgas does not see why it should be forced to transport gas for a fee, particularly when Ruhrgas enjoys none of the protections against competition found in neighbouring countries.

Instead, Ruhrgas insists on

carriage in Europe would have an ironic effect: the most liberal gas market would be affected most severely, while the most centralised and tightly-controlled markets would be relatively untouched.

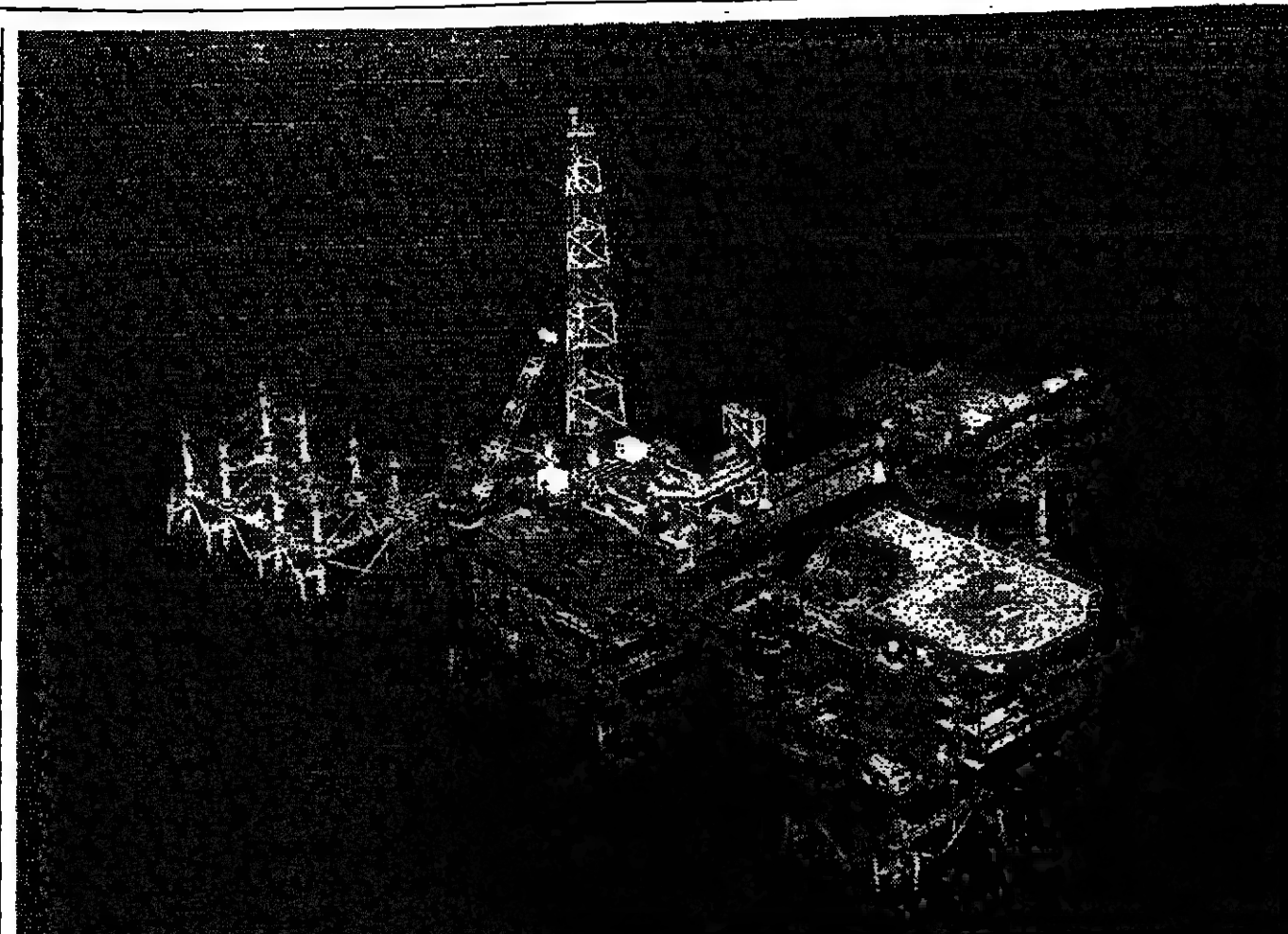
Ruhrgas has always argued competition is best promoted not by regulating the use of private property by enforcing common carriage, but by lifting restrictions on building pipelines and on buying and selling gas. It can undoubtedly make these recommendations in some confidence. Wintershall is aiming to build an eight billion cubic metre (bcm) a year capacity pipeline, of which 3bcm would be for its own use. Wintershall, however, is unlikely to raise sufficient finance for the project until it can demonstrate that it has both a secure customer base and a secure source of supply.

Wintershall appears already to have struck out on arranging a Norwegian supply of the 3bcm for its own use. Although Statoil, the Norwegian state oil company, has plenty of gas to sell, it will not undermine the market position of its biggest customer, Ruhrgas, merely on the prospect of a marginal sales increase.

Wintershall has talked to the Soviets about a gas-swap deal. While the Soviets say they will agree to any deal that makes commercial sense, Wintershall has yet to make a concrete proposal and a swap deal would appear to hinge on an alternate supply of gas. Filling the other 3bcm of pipeline capacity could be a big problem, although there is talk of Wintershall transporting the gas through German territory for other countries.

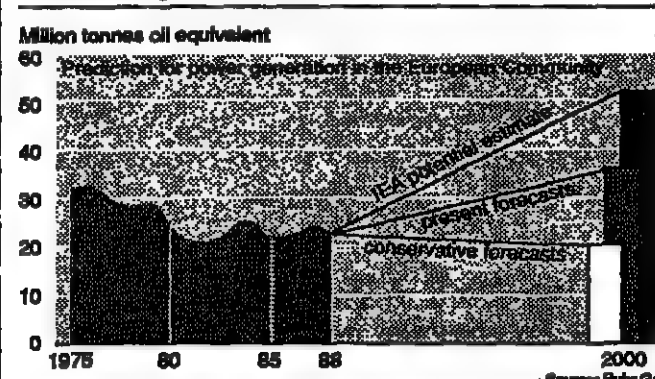
Should the Wintershall pipeline eventually go ahead it could pose a threat to Ruhrgas, although it is unlikely financial institutions would support a project that would lead to excess capacity and a price war. Yet if the Wintershall proposal falls flat, it raises a serious question: is the German market so open to competition, as Ruhrgas claims?

Steven Butler

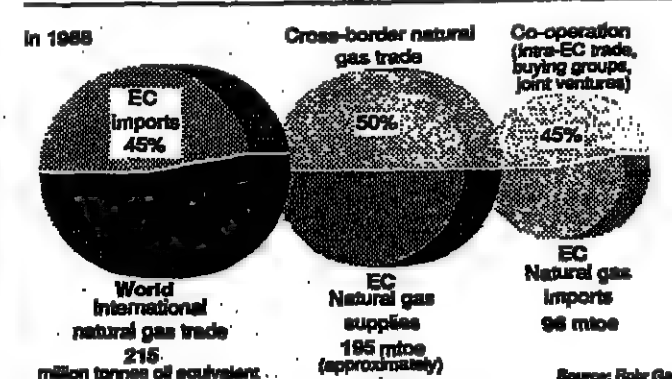


European gas-gathering station: producers generally oppose US-style market 'reforms.'

## Natural gas demand



## Cross-border natural gas trading



## NORWAY

## Ambitious plans under way

NORWAY, one of western Europe's major suppliers of gas, believes that it will nearly double annual exports by the turn of the century to about 50bn cubic metres (bcm) from about 27bcm.

This ambitious goal will be achieved by increasing existing market shares on the European continent to more than 25 per cent from 15 per cent and by winning access to new markets including the supply of LNG (liquefied natural gas) to the US.

"The world is a brighter place to be at present than it was just two years ago, as seen from a gas-seller's point of view," observes one market analyst. There are just eight countries in the world which have access to more natural gas reserves than Norway, which has 2.75 trillion cubic metres (TCM).

Norway's main marketing thrust is to increase existing market shares on better commercial terms than what prevails for existing contracts and to focus on its "core" markets rather than seeking to enter new markets at any cost.

"New projects will require contracts which can secure an economic rate of return... for the main challenge facing Norway, as a major gas producer, is to identify new projects which are sufficiently profitable," explained Mr Peter Melbye, an executive with Statoil who is the state oil company's head gas negotiator and market strategist.

This is backed up by Mr Harald Norvik, Statoil's president, who made clear that Norway has "established the required flexibility to refrain from entering into any additional contracts if the available terms are not commercially acceptable".

Mr Melbye says that in contrast to what has in the past been conventional wisdom about Norway's state of gas play there are now limitations on the supply side.

"There was developed the notion that Norway has a lot of gas which is seeking immediate market access. This is simply no longer the case," he says.

"We have few projects which are mostly committed to supply contracts and, insofar as new projects are concerned, there is a process involved in converting recoverable reserves into a sellable product: that takes time and there are limitations."

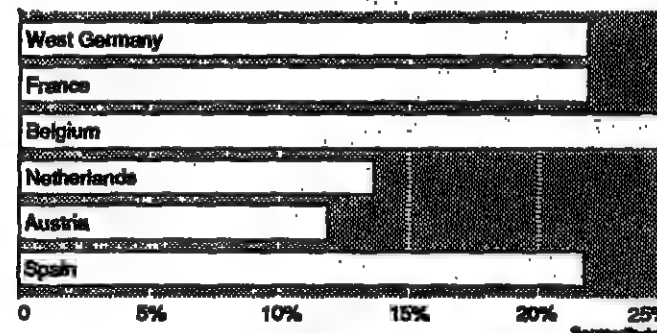
Norway's biggest competitor in the western European gas market is the Soviet Union. However, the advent of perestroika is likely to work in Norway's favour against it to increase market share, it is now believed.

Researchers earlier forecast that perestroika would clear the path for more Soviet gas to flow into western Europe.

"However, we believe that with the Soviet domestic transition which perestroika has facilitated, the country is not

## Norwegian gas: market share

Based on fixed contracts volume to the year 2000



in a position to take on significant, new commercial gas supply commitments and this situation could prevail for a decade," Mr Melbye explained recently.

"There is also more political risk attached to Soviet gas supply than ever before, which must be a serious consideration for the buyers."

The Norwegian view about the potential of east European countries as new buyers is a cautious one - "there are problems facing east Europe, though it may eventually become an interesting market place for natural gas if for no other reason than the necessity to clean up its polluted environment which could be aided by diversifying from coal to natural gas to generate power."

Most interesting of the east European market opportunities for Norway are the countries of East Germany, Poland and Czechoslovakia which are totally dependent on Soviet supply, but which will seek to diversify this source of supply.

These opportunities are not without problems, or at least major challenges, however.

The structure of the East European gas industry is not flexible at present to adjust to the challenges which developments will require.

According to Mr Melbye: "In East Germany, which is the most interesting market of the three, there are many companies vying for a central role but there is uncertainty over how many of these companies will exist after German reunification."

"Many are likely to be absorbed by West German gas companies so our challenge is

eventually increase by an additional 18bcm to 20bcm a year. He is also confident that France, Belgium and the Netherlands may expand their imports from Norway by an additional 10bcm to 15bcm.

France, however, last December declined to exercise a purchase option for reasons which it hinted are linked to a "trade imbalance" between the two countries.

Norway's optimism is not unfounded for it is backed up by its gas buyers. Mr Pierre Gadonneix, president, Gaz de France, stated publicly last year that "there is still room for expansion of the gas market in France even if it is now mature."

Norwegian gas could also find an increased role to fulfil French demand, "should all necessary conditions be correctly met," he commented.

Mr Klaus Liesen, chairman of the executive board, Ruhrgas, earlier declared that "the growth of gas from Norway will grow from the present 15 per cent to approximately 25 per cent."

He added: "The possibility of a significant increase in the use of natural gas for power generation in West Germany cannot be entirely ruled out during the 1990s and during the first decade of the 21st century."

Further impetus for optimism has been given by Mr AHP Groten, general managing director, Nederlandse Gasunie, who says that the growth of (Dutch) import volumes from "distant regions" is unavoidable in the long term.

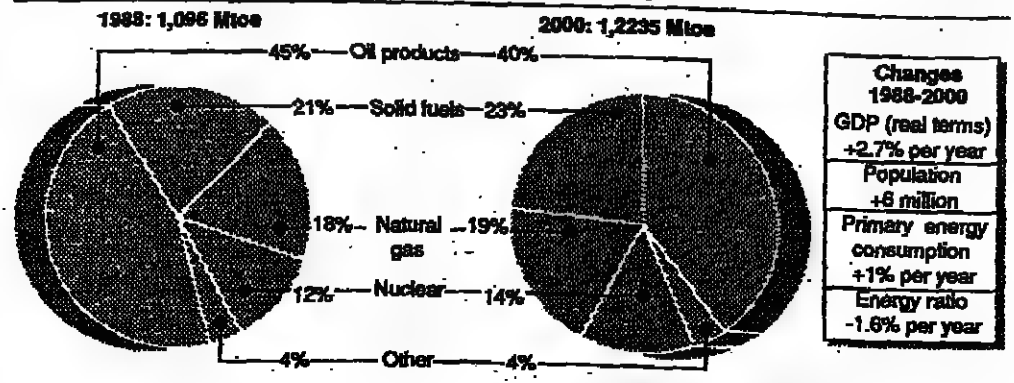
As for Norway breaking into new markets, there exists some uncertainty, though Spain was signed on two years ago in a deal that was subsequently improved in scope and in time.

In addition, Austria has contracted minor quantities. Norway has been negotiating with Sweden to supply between 2.5bcm and 3bcm gas annually for power generation to replace nuclear power but there is now considerable uncertainty over Sweden's intention to dismantle its nuclear industry.

Furthermore, the economics of such a project "would require a reasonable price for the gas to make an investment by Norway profitable."

Karen Foessel

## European primary energy consumption



Source: Ruhr Gas

## FORTHCOMING FT SURVEYS

## Energy resources and equipment

RECENT FT surveys related to energy resources have included OPEN CAST MINING on Tuesday, March 20, and THE ELECTRICITY INDUSTRY on Thursday, March 29, 1990. Among the forthcoming surveys will be the following:

Waste Management.....September 28, 1990  
Energy Efficiency.....November 22, 1990

Editorial synopses for these surveys can be obtained from: The Financial Times, Number One, Southwark Bridge, London, SE1 9HL. Tel (01) 873 3337 (direct line to Carol Blitchuk, who also has the publication dates of other surveys already published).



# Natural progression

**1965**

BP discovers the UK's first commercial offshore gas field, West Sole, in the southern North Sea.

**1967**

Production commences from West Sole, supplying the first UK natural gas to the national grid.

**1972**

BP starts small-scale direct gas sales to local industries from the onshore Gainsborough field in Lincolnshire.

**1986**

BP reaches first common carriage agreement with British Gas to supply Hull chemical complex.

**1988**

BP announces agreement to sell gas from the Miller field to the North of Scotland Hydro-Electric Board at Peterhead. This will be Britain's first power station supplied by direct gas sales.

**1989**

BP forms direct gas sales unit.



**1990.**

**North Sea gas – direct to Britain's industry  
from the nation's number one producer.**

**Naturally.**





## THE GAS INDUSTRY 4

Steven Butler examines changes in the US natural gas industry

## Competitive forces intensify

MUCH OF the US natural gas industry is still reeling in shock from the regulatory upheaval of the past decade, which has turned the industry upside down as it brought the era of open-access competition on pipelines.

In Washington, there are broad smiles of accomplishment that competition has done its job. Consumers now have a choice of gas suppliers. Gas is moving freely about the country on a spot sales basis. The industry fared well by some accounts in the December cold snap, thus proving it could respond flexibly. Gas prices around the country have converged, the clearest indication that competitive forces are working.

"There isn't anybody who isn't happy with this on Capitol Hill," says a congressional staff aid. Yet in Houston, the centre of the industry, the doubts will not go away.

"Sometimes, it's almost like Alice and Wonderland," says Jack Earnest, a lawyer and former president of Transco, the pipeline company. "It is difficult to see the efficiency gains. There is less flexibility in pipeline systems. Short-haul transport [which pipelines cannot refuse] makes pipeline management harder."

Some small consumers and commercial have seen rates rocket when their local utility lost a big industrial customer who previously shouldered part of the infrastructure cost.

"What is the privilege of pipeline ownership if you have common carriage?" says John Wolff, planning manager at Panhandle Eastern. "This is not really resolved in the US."

"The problem has been the rapidity with which one fundamental change after another out of the regulatory agencies," says Mr Robert Thomas, president of Tenneco Gas.

Mr Martin Allday, chairman of the Federal Regulatory Energy Commission appointed at the end of last year, has recognised the industry needs a period of relative stability to absorb the changes already introduced. Yet many of these are still under challenge in the courts, and they have created other unresolved dilemmas that the FERC will undoubtedly be forced to address.

Mr Allday has also called for a basis to be found for longer term contracts, one of the pri-

ncipal casualties of a decade of turmoil.

Pressure to introduce changes in the industry reached bursting point in the 1970s when low controlled well-head prices produced a gas shortage. Decontrol of new gas encouraged pipelines to contract for long-term supplies at sky high prices, figuring an average price of new and old gas could be passed on to customers.

Yet demand for gas contracted sharply in the early 1980s, leaving pipelines with empty space and inability to honour purchase agreements. They tried to fill up the pipelines by cherry-picking big industrial consumers, which would only buy gas at a much lower price, and allowing them to purchase gas directly from producers. Base-load customers were still stuck with higher prices from gas bought from the pipelines on long-term contract.

When these arrangements were challenged in the courts as discriminatory, the FERC made two landmark decisions: First, local distribution companies were freed from contracts requiring them to buy from the pipelines, but pipelines were freed from their obligation to supply not of the contractual obligation to buy from producers.

Second, pipelines were required to provide transportation to third parties on a non-discriminatory basis, or not at all. These rules produced billions of dollars in lawsuits as producers tried to force pipelines to honour their contracts. The pipelines were unable to since they had lost their captive market. The producers were generally figured to have shouldered most of the loss and many hundreds went bankrupt.

The pipelines gradually reached negotiated settlements with most producers, aided by FERC Order 500, which allowed the pipelines to pass some of the settlement cost on to their customers provided they declared themselves to be open access pipelines, that is, open to all gas transporters on a non-discriminatory basis.

Order 500 was successfully challenged in the court, but did not accept FERC justification on the grounds that the order amounted to retroactive rate making. It is under appeal. The final adjudication of these disputes remains unclear, but most companies involved in natural gas are gradually focusing on the future of what everyone reckons will be a growth industry in the 1990s.

The pipelines share of direct sales of gas, gas which they purchased from producers and

sold on as a merchant, declined precipitously in the mid-1980s, when open access first arrived. It is now climbing back up again. But this has given rise to the most critical regulatory question for the coming years: how to referee fair competition between the pipelines' merchant operations and other merchants of gas so that the pipelines do not have an unfair advantage.

This question is becoming

## The structure of charges introduced by the pipelines is under dispute

critical as many of the long-term sales contracts between pipelines and local distribution companies (LDCs) are expiring. The LDCs have a choice between renewing the old contracts (the pipelines cannot cancel service without FERC approval) and converting firm sales agreements into firm transportation contracts in which other merchants would supply gas.

The problem is that few merchants can claim to offer the reliability of the pipelines. They are generally limited to half a dozen supply points for gas into the pipeline, compared

to hundreds for the pipelines. This could put supplies in jeopardy during a repeat of last December's cold snap.

The structure of charges introduced by the pipelines is also under dispute. Hadson Natural Gas, an independent supplier, has taken Panhandle Eastern, the interstate pipeline, to court over its charges, called gas inventory charges.

These are the fees that pipelines are proposing to charge customers to provide a firm supply service. (In theory it covers the cost of firm contracts with producers, although some producers believe the pipelines will just pocket the money and take their chances on the spot market.)

The Panhandle Eastern charges require a customer to pay, say, 60 per cent of annual entitlements whether or not used. Hadson complains this locks in customers who need absolute reliability. Other pipelines are charging a fixed fee for availability, whether or not used, which leaves the customer free to shop around for the best price of gas.

The structure of gas inventory charges is one important item on the regulatory plate, and promotes efficiency, without having to have the FERC approve every change in business procedures.

place, is another. The incredibly cumbersome procedure for federal government certification of proposed pipeline interstate construction has drawn criticism all around.

Approval of the Kern River pipeline project from Wyoming to California took more than five years. There is now discussion that Federal certification should perhaps simply be scrapped, on the grounds that the environmental risks of building gas pipelines are less than the damage caused by burning coal and oil.

There is even the faintest whisper in some quarters, which will probably never amount to much, that maybe all of this government intervention, and the army of lawyers and consultants it supports, in the end does not pay its way. (The cost is simply added on to customers bills when the pipelines make rate filings.)

The head of large interstate Texas pipeline says the light-handed Texas regulatory system could well be a model for the rest of the nation.

In Texas, pipelines charge what the market will bear, which means many have lost money recently.

With increasing competition between pipelines nationally, he believes, market forces themselves would usually be sufficient to provide discipline and promote efficiency, without having to have the FERC approve every change in business procedures.

## Warning from US suppliers

AFTER 50 years of regulatory turmoil in the US natural gas industry, the sector finds itself back where it has been often before - debating whether the regulatory regime, and the price of gas, will cause a shortage in the coming years.

The producers of natural gas in the US have cried wolf for many years and there is no surprise that few outside the industry are listening to them now. Producers are warning that the so-called "gas bubble" - an excess of deliverable supplies that has depressed gas prices in recent years - has deflated, and that in the coming years, surplus will be replaced by a shortfall that could leave the industry unable to meet peak winter demand.

Despite decontrol of well-head prices, enacted into law last year, current prices do not reflect anything like an impending shortage.

"Today's prices are so low that capital investment has not been forthcoming. We're on the ragged edge of a big shortage of gas," says Mr Robert Allison, chairman of Anadarko Petroleum, an independent producer.

The American Gas Association, which speaks mainly for gas consumers and pipelines, by contrast, is confident and reassuring that a balance between supply and demand will persist for the foreseeable future.

It says that inside of 12 months, 0.7 to 1.2 trillion cubic feet of gas, compared to last year's consumption of nearly 19 tcf, could be brought on stream each year, and that with a three year lead, 1.3 tcf to 2.1 tcf could be made available.

Mr Robert Kalish, of the AGA, says this will come from four, readily identifiable sources: cheap, low-risk infill drilling on existing fields, stepped up Canadian imports, development of existing discoveries, and imports of liquefied natural gas (LNG).

This shorter-term rosy picture is bolstered by upward revisions to estimated potential gas reserves in the yet-to-be found category issued by the AGA Potential Gas Committee, which said that in early 1989 there were 868 tcf of gas yet to be discovered in the US, compared to 18 to 19 tcf a year of consumption. This has led to broad confidence at the AGA that America has an assured future with abundant gas supplies.

Is the AGA right? Many of the numbers normally used to predict economic activity do not support its case. In fact, while the "potential" appears more and more rosy in forecasts, the industry in position to realise that potential has been devastated by weak prices.

As a result, drilling levels fell off drastically in the 1980s and US reserves of natural gas have steadily eroded. In almost every year since the late 1980s, production has exceeded additions to reserves, even during the heyday of high prices in the early 1980s.

Moreover, the production industry is worried by the quality of reserve additions that have taken place. An increasing proportion of reserve additions come from reserve revisions, extensions to existing fields, and new finds adjacent to old fields. Less and less comes by way of new fields.

Of the 22 tcf added to US reserves in 1988, only 1.8 tcf

at two to 2½ times finding costs in order to break even. With industry average finding costs about \$1.30 per thousand cubic feet (mcf), this would require a selling price of \$2.75 to \$3.00 per mcf. Well head prices, however, have been averaging about \$1.70 per mcf.

While the AGA may accept much of this argument, it says that advances in technology have continued to bring down the cost of finding gas, and that actual higher prices along with expectations of rising prices will be enough to bring sufficient gas to market in time.

In December, the US delivery system was put under severe strain during the coldest December weather on record, leading to near-record monthly deliveries of 2.3 tcf. To bear the AGA tell the story the industry performed beautifully under the circumstances, which were severe indeed. One third of the gas producing wells in the Gulf of Mexico were frozen shut for three days.

To some producers, however, the experience showed that the US industry is already having trouble meeting peak demand. Three interstate pipelines were forced to curtail sales to customers with firm supply contracts, although vital supplies to households were not turned

off. The gas industry looked relatively good, next to the fuel oil industry, where shortages hit much harder.

Gas prices charged ahead as gas in storage was depleted rapidly. Yet prices fell back quickly as customers deferred refilling storage until the summer months, when gas prices are low. The industry was apparently saved only by the unseasonably warm weather in January and February.

The "gas bubble," which depressed prices for so long, appears to have gone, yet average prices - as opposed to seasonal peaks - have not gone up significantly.

This has the gas producers worried, not only because they are not making the sort of money they would like, but also because of fears that a lack of financial incentive to drill will gradually erode the industry's ability to meet demand. This could lead to a sudden supply crunch that could cause prices to rise sharply and once again bring Congressional intervention and price controls.

This situation could take longer to develop than in past years because of the large capability of the US industry to switch to alternative fuels should the price rise to high, or delivery to be there.

If a shortage in deliverability did lead to a serious shortage and soaring prices, it should not be too surprising, former Federal Energy Regulatory Commission officials, ranging from former commissioner Ms Martha Hesse on down, have expressed confidence in the workings of the free market.

They believe that decontrol of wellhead prices combined with the competitive changes in the industry which allow producers to sell directly to consumers will put the market into balance.

Yet there is no reason to believe that the natural gas industry deregulated should behave any differently from other commodity industries, where long cycles of surplus and shortage are typical.

Indeed, Mr Whitman argues that the rate-of-return regulation on pipelines prolongs and exaggerates these cycles. This is because rate behaviour is precisely the opposite of what the law of supply and demand should indicate.

In the early 1980s, when gas demand fell off, pipelines put their rates to earn a return despite a loss of throughput. This puts even more pressure on the producers, who are forced to take a market-determined price at the burner tip, minus higher delivery charges. As pipeline throughput rises and capacity becomes constrained, rates drop, the take by producers rises, and a boom in drilling is encouraged.

"In the 1980s, a thousand producers went bankrupt, but not one pipeline went bankrupt," complains Mr Allison. "Regulation has masked the market signals."

There is a widespread belief in Houston that the AGA view is not an objective forecast, but rather an attempt to reassure worried utilities and industrial users that investment in gas-burning equipment makes sense. Mr Whitman draws the most obvious conclusion from this clash of views: investment in equipment to allow fuel-switching is a good insurance policy.

Steven Butler



A liquefied natural gas carrier with spherical tanks (capacity: 125,000 cubic metres)

## THE GAS INDUSTRY what are the key issues?

EC common carriage - will Europe remain a buyers market?  
LNG expansion - can it still continue at its current growth?  
Can Russian production and transmission match reserves?

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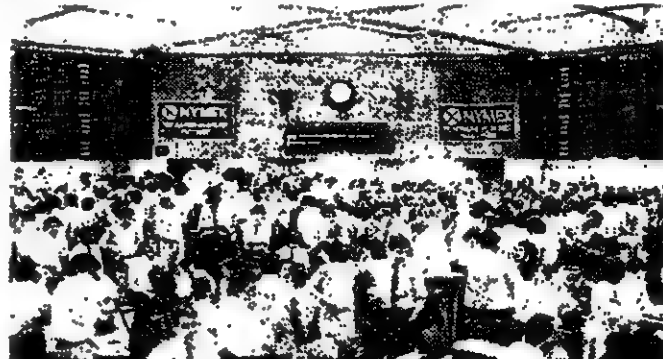
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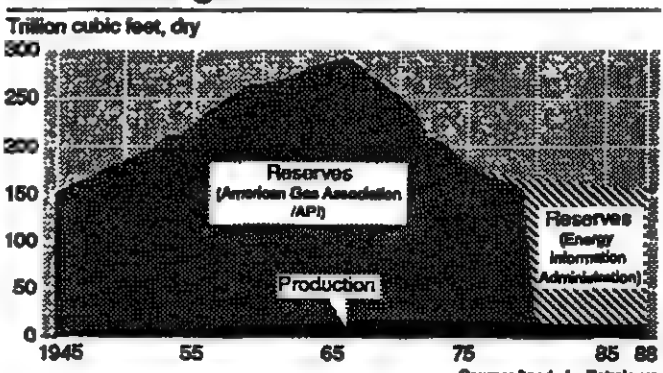
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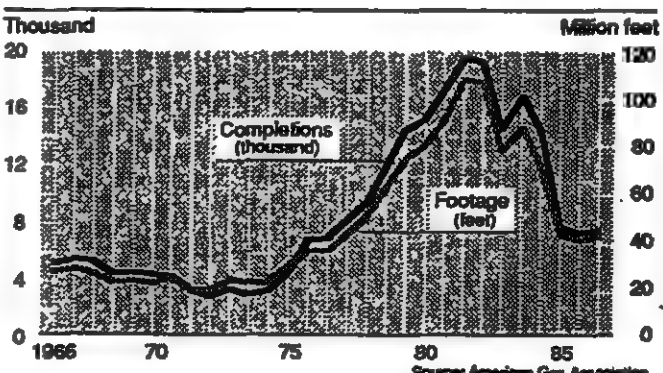


The world's first natural gas contract began trading this month at the New York Mercantile Exchange

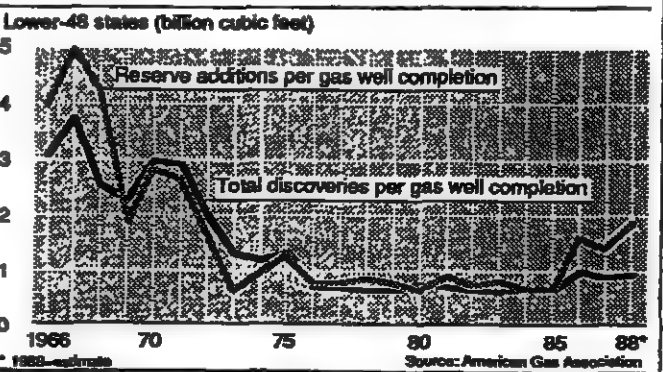
## Proved US gas reserves



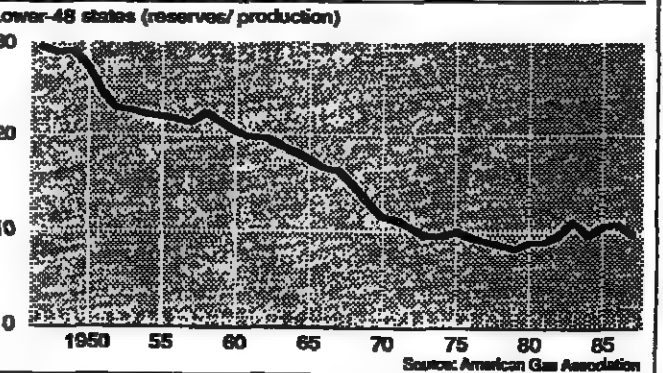
## Gas wells



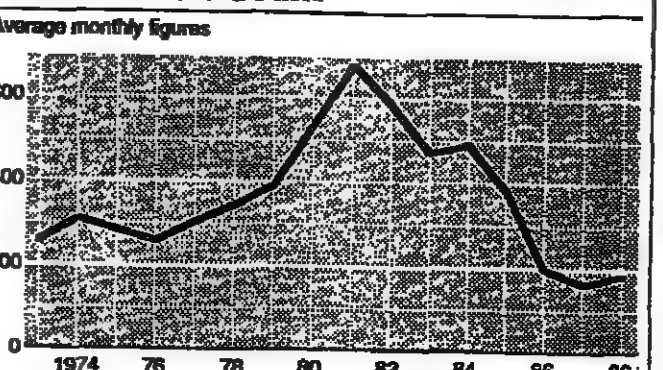
## Reserves versus discoveries



## Reserve Life Index

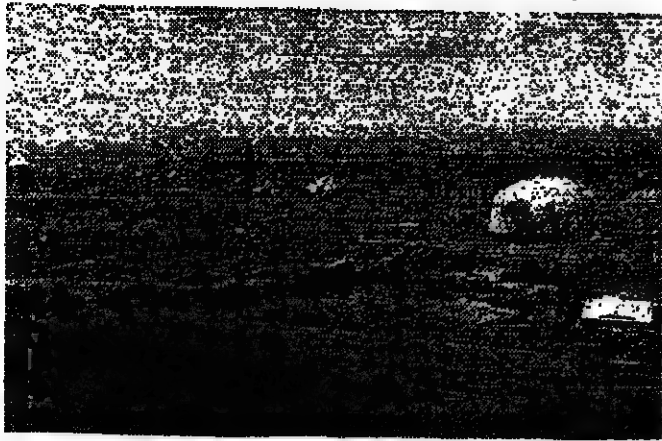


## Seismic crew count

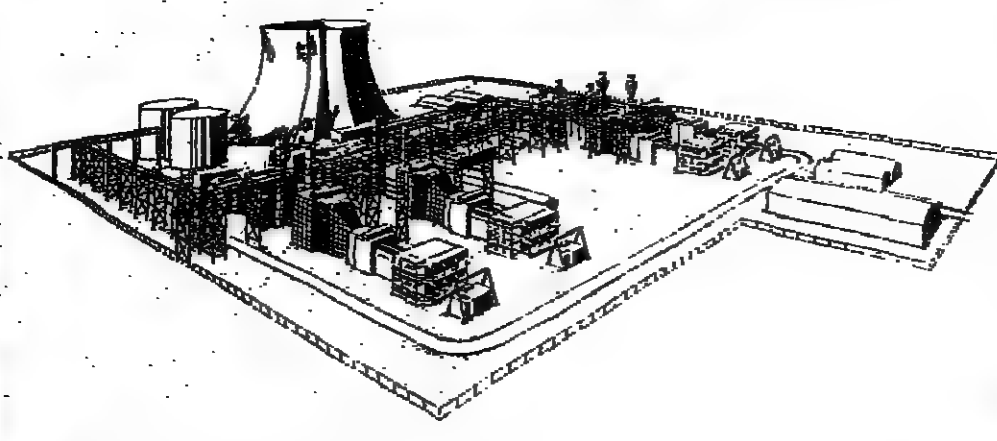




## THE GAS INDUSTRY 5



Aerial view of the proposed site for the Teesside Power Project at ICI Wilton Works, with, right, a perspective of the plant.



Gas is the favoured fuel in electricity generation, says Maurice Samuelson

## A dramatic comeback

THE INTERNATIONAL energy shocks of the 1970s led to a reduction in the use of natural gas in power stations. But in the final decade of the century, gas is making a dramatic comeback as the favoured fuel for electricity generation.

Several factors have contributed to this new outlook:

- The large quantities of gas now available.
- Its environmental attractiveness.
- New combustion technology and the lower cost of building gas-fired power stations.
- Radical changes in the electricity industry, especially privatisation.

In the US, the Fuel Use Act of the mid-1970s which banned big new gas-fired power stations was repealed three years ago. In Europe, the 1975 European Commission Directive listing clear criteria for approving gas-fired power stations is virtually a dead letter. If the British Government has its way, it will be officially set aside later this year.

Environmentally, gas scores over coal because of its far lower sulphur and nitrogen content. This means that, unlike coal stations, gas burners do not have to be fitted with expensive scrubbers to reduce their contribution to acid rain damage to lakes and forests.

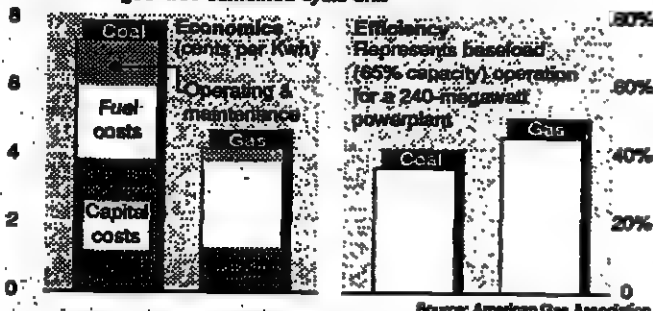
Gas still releases carbon into the atmosphere, thus contributing to the Greenhouse Effect, the latest source of global anxiety about the environment. But efficient methods of burning it mean that far less carbon is released into the atmosphere per unit of electricity produced.

The efficiency with which gas is converted into electricity has been boosted by the use of combined cycle gas turbines, in which the waste heat from the primary gas turbine is passed through a heat exchanger to raise steam for a secondary steam turbine.

The result is to achieve energy conversion rates of about 50 per cent compared

## Electricity production

Gas versus coal: comparisons of electricity production in a coal-fired boiler and a gas-fired combined-cycle unit.



with 37 per cent for the most modern conventional coal-fired power stations. It also enables gas producers to command a higher price for their product, and some are considering integrating vertically into the generating business.

The only way in which coal producers can respond is via a similar route - by gasifying the coal for use in combined cycle turbines. (The "topping cycle" technology based at British Coal's Grimethorpe pilot plant is not yet ready for full commercial application but is one of a number of serious coal-based challenges. Once these systems are on the market, the greater stability of coal prices over that of gas may again tilt the balance in coal's favour.)

Natural gas, however, can also be burned in coal stations, thereby boosting their efficiency and diluting their noxious emissions. The American Gas Association claims that electricity from old coal plants "re-powered" with gas is half the price of that from a new conventional coal burner.

Gas is also increasingly used in co-generation, or combined heat and power (CHP) machines, in which the steam from the gas exhausts is used

for industrial processes or space heating rather than being passed through a secondary turbine.

It is against this broad background that gas is taking a steadily increasing share of the power station market in most developed countries.

In the US, where 15 per cent of gas is used for electricity generation, it accounts for 10 per cent of the fuel used in power stations. According to a recent report by the US Energy Information Administration, this proportion could double by the end of the decade.

A similar growth in Europe is also predicted by the London-based forecasting consultancy Warton Economics. In a recent study of 18 countries in Western Europe and Scandinavia, it concluded that by 2005 gas would account for 11.6 per cent of power station fuel compared with its 5.5 per cent share in 1988.

In Britain, where no gas was used in 1988, it would reach 12.3 per cent by 2005. In West Germany, where it stood at 6.3 per cent, it would reach 15.3 per cent; Belgium's use would rise from 4.9 per cent to 18.6 per cent and Spain's from 3 per cent to 10.2 per cent.

Only in the Netherlands, which has long fuelled its power stations from indigenous gas reserves, is gas set to lose market share, primarily to clean-burning coal plants. According to Warton, gas in Dutch power stations will fall from 47.3 per cent to 34.4 per cent.

In Britain, it is electricity privatisation which has most dramatically transformed gas's prospects as a power station fuel. Until two years ago, both the Government and the monopolistic Central Electricity Generating Board were contemplating building two or three large conventional large coal stations and three more PWR nuclear plants like that taking shape at Sizewell, Suffolk. The 900MW coal turbines would have been Britain's largest ever.

All these schemes, providing hope for Britain's order-starved power plant manufacturers, have now foundered as a result of the political decision to transfer the balance of investment from the generators to the distribution companies which buy their output.

They have been replaced by a score of new projects, including about 10,000 MegaWatts of combined cycle plants, all but one of them to run on natural gas. The first gas contracts have already been concluded. British Gas in its first such contract, will supply the fuel for 15 years to the 220MW plant at Roosecote, Cumbria, owned by Lakeland Power. It will supply 7 per cent of the electricity used by Norway, the local distribution company. PowerGen has signed up for gas for its 1,000MW plant at Killingholme from the Arco-Conoco Pickering gas field in the southern basin. National Power's plant on the same site will be fuelled from Total

Marine's Caister Field.

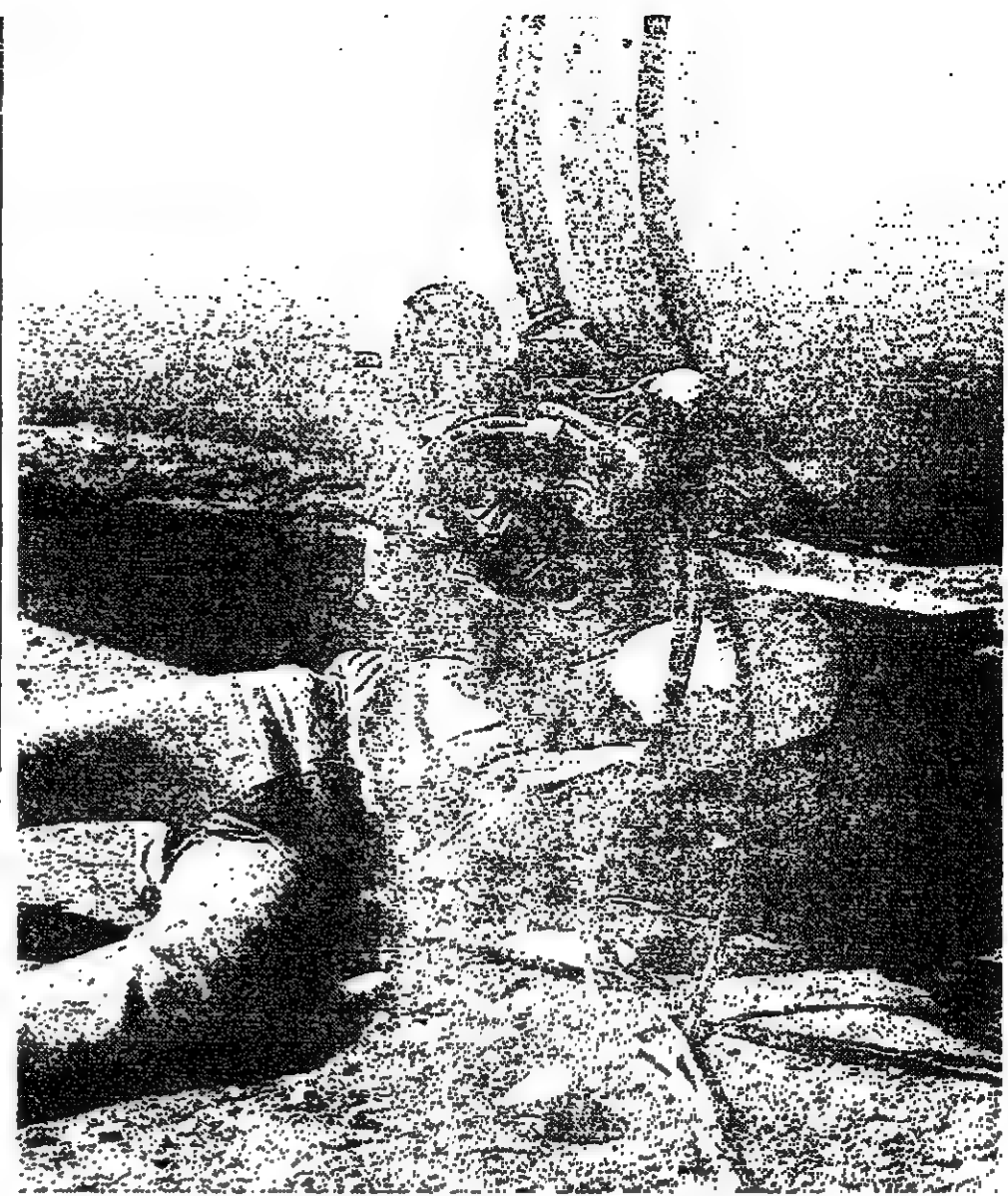
Ten per cent of the gas from British Petroleum's Bruce field has been secured for the 350MW power station at Corby, Northamptonshire, owned by East Midlands Electricity and Hawker Siddley. This was the first such deal following last year's anti-monopoly ruling that 10 per cent of all new gas fields in the UK Continental Shelf must be sold to a customer other than British Gas.

The biggest single power station gas contract, representing 6 per cent of the entire UK gas market, will provide 300m cubic feet a day for the 1,250MW plant at ICI's Wilton plant, Teesside, to be built and operated by the US Enron Corporation. The plant, comprising eight gas turbines, will take gas, through a specially built offshore pipeline, from the Everest and Lomond fields, owned by the Amoco/Gas Council group.

Analysts say British gas fields should contain enough reserves to the end of the century for the new electricity schemes currently under consideration. But electricity producers are also discussing longer term projects with other suppliers, principally the Norwegians, who are seeking new outlets to replace business from their declining Frigg and Odra fields.

That implies large-scale sales of Norwegian gas to British power stations. Four years ago, the British Government vetoed a contract by British Gas to secure the output of Norway's Sleipner field. It remains to be seen how the Government will react if a similar proposal is made by the electricity industry.

European Electric Power System in the 1990s; (WEFA Energy, Ebury Gate, 23 Lower Belgrave Street, London SW1W 0NW); £5,500 for two copies.



Expanding network: a British Gas engineer welding new pipelines.

## BRITISH GAS

## A surge of new customers

PRIVATISED AND liberalised the British gas market may be, but one company - British Gas - still completely dominates the gas business in the UK.

British Gas, privatised in 1988, remains the monopoly supplier to households and the vast majority of small businesses - those consuming less than 25,000 therms a year. Moreover, although British Gas is facing competition in the industrial gas market for the first time, so far it has suffered little more than pinpricks from competitors in this segment of its business.

The giant British company, which claims to be the largest integrated gas supply business in the western world, has sailed relatively unscathed through what for it is bad news: a spate of mid-winter. In the year to March 1989, revenue from gas sold to households increased by 3.4 per cent to £4,349bn - some two-thirds of British Gas's total revenue from gas sales - in spite of the preceding Christmas being one of the warmest on record.

More impressively still, the company managed to sign up 350,000 new customers last year - many more than was normal before privatisation. British Gas attributes this surge in new customers in part to new, more cost-effective techniques it has devised to bring the marginal customer onto its network. But British Gas's top managers are conscious that they cannot count on such progress in its domestic gas business indefinitely.

"We have already got high saturation and given five more years of progress like this, the market will be pretty mature," admits Mr Robert Evans, chairman of British Gas.

British Gas also faces a more political battle in its all-important domestic market. Mr James McKinnon, director general of the Office of Gas Supply, the industry's regulator, is preparing to negotiate new rules for setting prices affecting the company's 17m household and commercial customers.

In theory, Mr McKinnon has plenty of time to negotiate the new formula, which sets a squeeze, or X, factor by which British Gas must reduce its prices, after allowing for rises in inflation and gas purchase costs. British Gas's new price formula does not have to be in place until April 1992. In practice, however, the time needed to agree on a new formula will ensure that the issue become live this year.

As present, the squeeze factor is 2 per cent. Combined with the impact of weak oil prices on gas purchase costs, this has delivered a 10 per cent cut in real gas prices since 1986. Mr McKinnon is set on a fundamental review of the whole basis of the formula. To help him, he has completed a mammoth exercise to disaggregate the costs incurred in supplying household and commercial customers - those covered by the pricing formula - from those in the unregulated industrial or contract sector.

British Gas, which believes

that rate-of-return controls have prompted US utilities into wasteful investments, will fight to retain the present structure of the formula. Unsurprisingly, it will also seek to dispel the widespread belief that its monopoly supply business is a low-risk activity, not meriting a return much above that on government bonds.

The gas company has not been noted for emerging successfully from its encounters with Mr McKinnon, a fact attributed by many industry observers to a misreading of the powers available to the regulator by Sir Denis Rooke, Mr Evans's abrasive predecessor.

Mr Evans paints himself as a very different character to Sir Denis, more of a conciliator. Yet the policies adopted by Mr Evans since he took over the helm of British Gas in July are firmly in line with those followed by the company since its privatisation. They flow from British Gas's conviction that it must reduce its dependence on the relatively mature UK market. This means building up the two other legs to the British Gas tripod:

● Global gas is the name British Gas gives to its desire to develop an overseas gas distribution and supply operation.

Its proposal to acquire Consumers Gas, Canada's largest natural gas distributor, for C\$1.1bn (£563m) is the clearest example to date of this strategy. Announced in March, the Consumers Gas acquisition still has to clear several tough regulatory hurdles in Canada.

● Exploration and production. British Gas's drive to develop an oil and gas production wing has roused much controversy.

Its attempt to purchase Bow Valley Industries ran into strong regulatory objections which stopped British Gas from taking management control of the Canadian oil and gas exploration concern. Its failed bid to buy Petrocorp led to an embarrassing row with the New Zealand Government.

The fundamental question-mark raised by City analysts is whether British Gas should dilute its relatively shallow pool of top management talent by diversifying into risky areas of which it knows little. An alternative strategy would be to return more of the value of its monopoly earnings in the UK to its shareholders.

David Thomas, Resources Editor

## UK gas production

Potential UKGS fields (billion cubic feet per day)

Expectation gas 20 wells/year 6/6 platforms/year

Future N N gas associated gas

Future gas fields

Future gas condensate fields

Existing UKGS developments

1990 1995 2000 2005 2010 19

Source: UK Offshore Operators Association

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## Environmental issues

## Big claims for 'green' fuel

BRITISH GAS has been quick to seek to capitalise on worries about the effect of energy consumption on the environment. It has advertised the "greenness" of its main product - natural gas - in comparison with other hydrocarbons.

Natural gas is predominantly the hydrocarbon methane, and has a 20 per cent share of the world energy market, compared with 10 per cent in 1980.

Methane is certainly natural, occurring in vast geological reservoirs - mainly deep under the North Sea, in the case of British Gas's reserves.

The carbon atom in methane is linked to four hydrogen atoms. It is the simplest hydrocarbon.

British Gas makes big claims for natural gas as an efficient, environmentally friendly fuel. Simple hydrocarbons such as methane, if burnt completely in the correct ratio with oxygen and not at temperatures which do not permit the combination of the main atmospheric gases, nitrogen and oxygen, produce carbon dioxide and water.

Burning natural gas emits only 60 per cent as much carbon dioxide per unit of heat produced as coal and 80 per cent as much as fuel oil.

Mr Alec Melvin, a research manager at British Gas, says that for the same energy output as obtained from other hydrocarbon fuels, natural gas burns to give at least 40 per cent less carbon dioxide, which is thought by scientists to be a major contributor to the greenhouse effect of global warming.

The greenhouse effect is caused by certain gases including methane as well as carbon dioxide, which trap the heat re-radiated from the earth after sunlight has warmed the ground.

Scientists believe that carbon dioxide contributes to about half the greenhouse effect of trapping outgoing heat from the earth. The amount of carbon dioxide is thought to be increasing at an annual rate of about half of one per cent.

Other gases are also capable of adding to the greenhouse

effect, particularly chlorofluorocarbons (CFCs) and halons, which have a strength as a contributor to the greenhouse effect that is 20,000 times greater per molecule than carbon dioxide. These gases come from refrigerators and aerosols, for example, and are thought to contribute about 14 per cent of the greenhouse effect.

Methane or natural gas is thought to be the second biggest contributor, after carbon dioxide, responsible for about 18 per cent of the greenhouse effect. The amount of methane leaked to the atmosphere is thought to be increasing by about one per cent per annum, twice the rate of carbon dioxide. Each methane molecule is 30 times stronger in its greenhouse effect than carbon dioxide. So the importance of methane itself, regardless of its role as a source of carbon dioxide, is increasingly important.

Max Wallis of the University of Wales, claims that British Gas is losing between 3 per cent and 10 per cent of its natural gas by leakage. British Gas puts the leakage rate at no more than one per cent.

Methane has two main sources: from naturally occurring gas reservoirs and as a natural by-product of rotting vegetation. One of the ways natural gas can help with environmental issues, according to British Gas, is with the use of techniques for the combined generation of heat and power (CHP). British Gas says that if running hours for a power generation system exceed 4,500 hours a year, then it is worth investigating the potential for a gas fired combined heat and power system. CHP offers an alternative to the separate use of boilers and other heating systems and to the purchase of electricity.

Mr Robert Evans, the chairman and chief executive of British Gas, in a speech to the Institute of Petroleum earlier this year, said that gas was part of a solution to environmental concerns and was not part of the problem.

Lynton McLain

## Britain's industrial gas sector

## Market revolution

A REVOLUTION in Britain's industrial gas market has taken place this year, although, so far, it is a very small revolution which has been noticed by few people and affected even fewer.

On the first day of March, Quadrant Gas became the first concern other than British Gas to sell gas directly to industrial customers, using British Gas's pipelines.

Quadrant, a joint venture between Esso and Shell, began the assault on the industrial gas market by unveiling two customers: Barr Thomson, a fibre engineering company, and the Ballantyne Cashmere Company of Peebleshire.

Not to be outdone by its large oil company rivals, British Petroleum followed Quadrant with a similar announcement a month later.

BP Gas Marketing, a company established only in January, announced its first two industrial customers: the Corby factory in Northamptonshire, a subsidiary of Euromax, a subsidiary of Ammax, the large US metal producer, and the defence equipment plant in Doncaster, Yorkshire of MS International.

As yet, Quadrant and BP Gas Marketing represent the merest pinpricks on British Gas's industrial business.

Yet they are a culmination of a long struggle by the UK authorities to inject some competition into the "contract" gas market - that for customers using more than 25,000 therms a year, which yielded revenues of £1.523bn to British Gas in 1988-89.

Mounting dissatisfaction among customers with British Gas's monopoly of this market was echoed by Mr James McKinnon, director general of Ofgas, the industry's regulatory body, who complained that British industry was having to pay more for its gas than its counterparts on the Continent.

British Gas had been legally obliged to transport gas for third parties wanting to serve the industrial market for a fee since 1982, but until this year this had never happened.

There was no gas available, since virtually all the gas coming out of the British sector of the North Sea was contracted to British Gas. Neither was

there an obvious entry point for newcomers into a market which British Gas had sown up by negotiating individual contracts with its customers.

A bruising inquiry by the Monopolies and Mergers Commission into the industrial gas market changed all that. Published in 1988 and brought into effect last year, the commission's report made two key recommendations.

First, British Gas was told to publish a fixed schedule of prices for large industrial users and to stop discriminating against customers unable to switch to alternative fuels.

Second, it had to contract for no more than 90 per cent of gas from new gas fields - the so-called "90/10" rule which forced big North Sea producers to consider fresh markets for the 10 per cent of gas which they could not sell to British Gas.

Ofgas has guided the negotiation of the first few transmission contracts for the new regime, stepping in when British Gas looked set to demand prices that would have made it impossible for a competitor to earn a profit.

The deals signed by Quadrant and BP now constitute a clear precedent, showing that British Gas and its new competitors in the industrial market can reach agreement on transmission without the intervention of the regulator.

Other would-be gas suppliers are waiting in the wings, including Associated Gas, headed by Lord Ezra, former chairman of the National Coal Board; Kinetics, a new company formed by Conoco and PowerGen; Gas Transmission, a pipeline company in which Enterprise Oil has a 25 per cent stake; and Mobil.

While there is plenty of interest in the industrial gas market, therefore, it is perhaps less clear where this new burst of competition is heading.

Many industrial customers are less than happy with the new regime.

While some companies experienced windfall gains when British Gas was forced to move to a fixed schedule of prices, others saw their gas charges rise substantially.

All of them lost the ability to

negotiate prices. Unsurprisingly, British Gas echoes these complaints about the inflexibility of the new schedules, which allow its competitors ample opportunity to undercut it on price.

They are described as "a very unfair imposition on British Gas" by Mr Robert Evans, the company's chairman.

"I don't see the role of British Gas as fixing industrial energy prices in the UK," Mr Evans adds.

There is a distinct air of artificiality to the competition that has so far emerged. On the one hand, it is in British Gas's interests - as its senior managers privately acknowledge - to surrender some of its industrial gas market to the new entrants; otherwise, there will be renewed pressure on the authorities to tighten the constraints on British Gas still further.

BP's experience in entering the industrial gas market demonstrated just how keen British Gas is to encourage competition. BP Gas Marketing will be using gas initially from the Welland field landed at the Bacton terminal in Norfolk.

BP had originally agreed in principle to sell all its Welland gas to British Gas, but British Gas offered to forego 10 per cent of the Welland gas, so that BP could build up its own gas supply business.

On the other hand, British Gas's fledgling competitors face serious constraints - principally, for the next few years, a lack of gas not already contracted to British Gas.

Quadrant will be concentrating initially on customers in Scotland and the North with gas landed at the St Fergus terminal in Aberdeenshire. BP will be concentrating on customers in the Midlands.

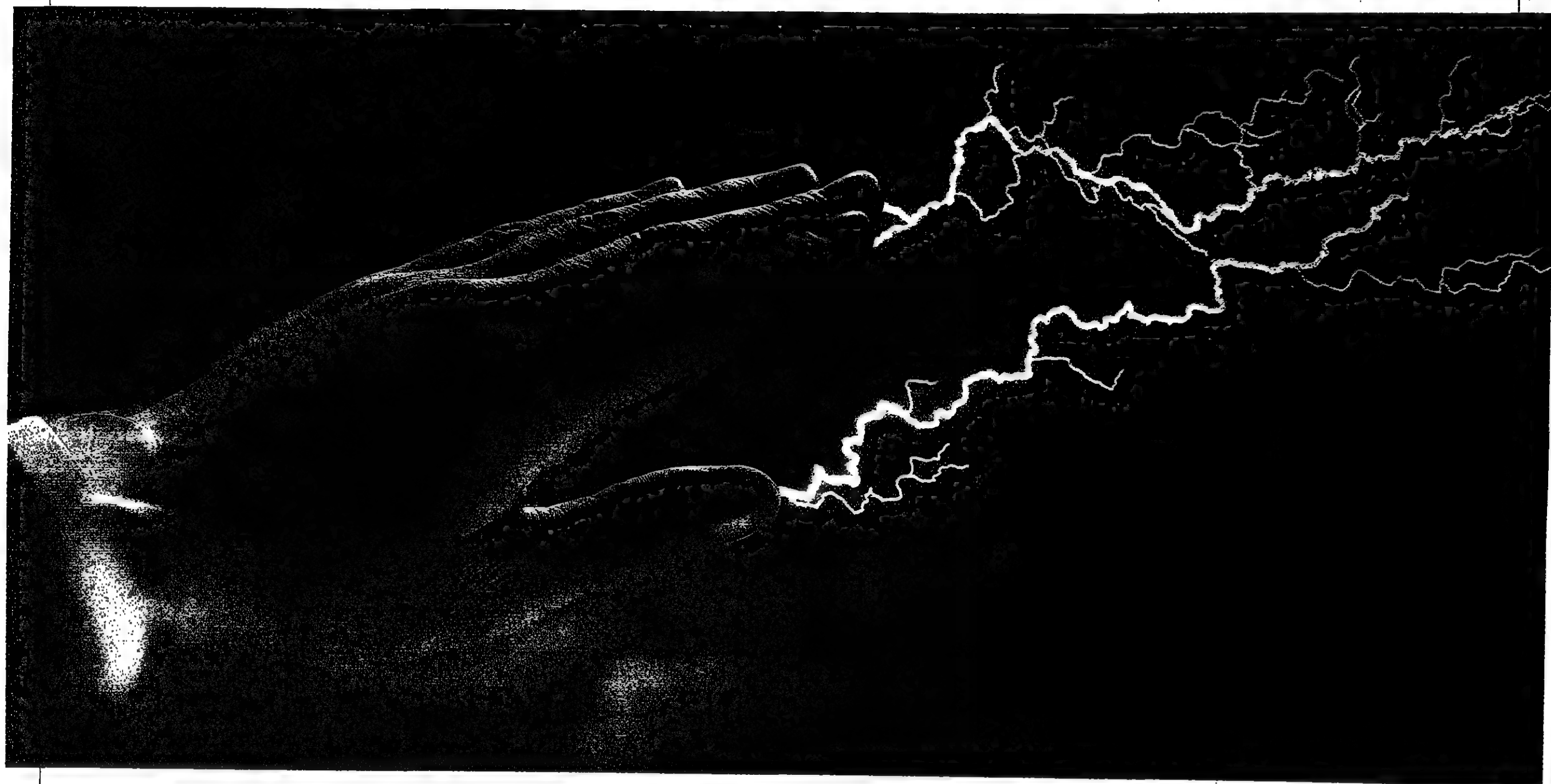
Mr Dick Oliver, BP's general manager of European gas, says that BP will not have access to large volumes of uncontracted gas until about 1993.

In the meantime, however, BP Gas Marketing might try to build up its gas supplies by buying gas from other producers which may not want to enter the industrial gas market.

David Thomas



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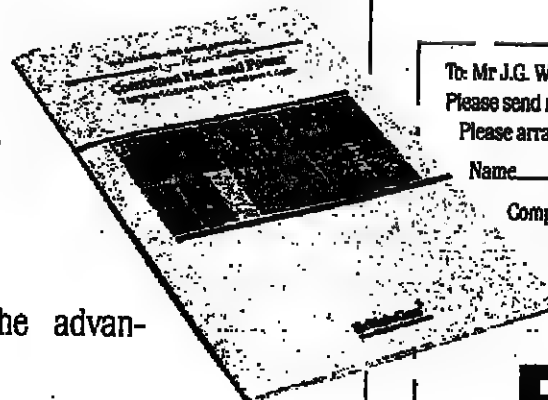
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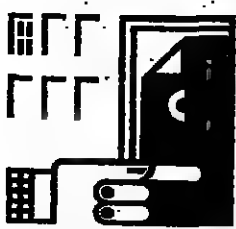
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## SECTION III

FINANCIAL TIMES  
SURVEY

The world computer industry faces a battle more intense than any it has experienced before,

as strategic alliances, rather than technology, will determine the main winners and losers, as

says Alan Cane explains here.

## Lining up for battle

BATTLE LINES for the information technology wars of the 1990s are now clearly drawn. To the west, there is International Business Machines (IBM), grizzled veteran of the computing business, anxious to confirm that it is still leader of the data processing pack.

To the east, the Japanese computer manufacturers (JCMs) are resolute and confident after a 40-year struggle which has seen them move from nowhere to a position where they collectively represent the only serious challenge to IBM's dominance. And in the middle, Siemens of West Germany.

Very much an unknown quantity, Siemens has emerged as a computer manufacturer of international class only in the past few years. Now through its joint ownership of Compaq (with BASF) and Nixdorf Siemens Data Systems, it has become Europe's computer champion. What will give the battle added zest is the fact that all the combatants will be fighting on unfamiliar terrain and using, for the most part, new and untried weapons.

The old world of data processing, driven by technology and dominated by manufacturers' proprietary systems, is on the way out. While proprietary

systems will continue to play an important part in the industry because of the billions of dollars customers have invested in them, the shift towards "open systems", where machines from different manufacturers can easily be connected together and run any make of software, now seems unstoppable.

The speed of change is camouflaged to some extent by the fact that the move to open systems is being driven chiefly by government agencies and by the armed services, anxious to get better value from the billions of dollars they pour into information technology every year.

Commercial groups, especially in the US, have been far slower to adopt the ideas of Open Systems Interconnection - rules which define how computers can be connected for easy communication; and a common applications interface - which means to all intents and purposes, the Unix operating system (or a variation of it) which allows software to be moved from machine to machine. The advantages of open systems are so appealing, however, that a steady stream of commercial groups are beginning to demand OSI and Unix for their new applications. Skirmishing around



## COMPUTER INDUSTRY

industry standards is nevertheless still commonplace. There seems to be no prospect yet of a single common version of Unix, for example. The Open Software Foundation (OSF) which includes IBM and DEC supports one version, while Unix International (UI), whose membership includes AT&T and Sun Microsystems, supports another.

Hostilities have been underway for two years. Peace talks which might have led to a common standard broke down earlier this month. A communiqué from the front line said: "UI and OSF determined that a full organisational merger could not practically be achieved at this time."

There has also been a furore in Europe over a draft EC directive that would outlaw software piracy. Critics say it would also outlaw legitimate measures manufacturers need to take to understand how their competitors' systems work in order to design compatible components. There are

fears that it would give companies like IBM and DEC a stranglehold on who designs what to work with their systems.

Worldwide, the computer industry is still growing, but unevenly. In the US, spending on data processing is virtually at a standstill, while it remains vigorous - that is, with growth of more than 10 per cent a year - in Europe and

solve their business problems is too difficult. IBM, facing a serious and long-term decline in its rate of growth and profitability, has been turning itself inside out in an attempt to move away from its old, autocratic, technology-driven image to a softer, customer-driven approach. To be fair, it is a strategy that has been espoused by most computer

"One of the things we decided is that we must learn how to offer more software. We have to optimise our development budget, our people and our skills more towards the development and selling of software and hardware. It is one thing to say: 'Sell solutions!' and quite another to quantify them."

IBM took its model for working with its customers from Japan, where it has had to fight against a cluster of indigenous companies with one hand tied behind its back for much of the time. It has been comparatively successful, but so have the major Japanese manufacturers - Fujitsu, Hitachi, NEC, Mitsubishi, Oki and Toshiba. In the late 1980s and 1990s, Japanese companies faced considerable disadvantages in entering the computer business. As Marie Anchordoguy points out in her study, Computers Inc.: "IBM had a 70 per cent share of the world computer mainframe market and the rest was dominated by large US companies such as

**What will give the battle added zest is the fact that all the combatants will be fighting on unfamiliar terrain and using, for the most part, new and untried weapons**

the Pacific Rim. A major reason for the slowdown in spending in the US seems to be a deep disillusionment on the part of customers with the industry's offerings.

They complain that computer systems are awkward to use, that they are too complicated to connect together and that developing software to

manufacturers with varying degrees of success. IBM was by no means in the vanguard of the movement - but when IBM takes a trend seriously, the rest of the industry has to take notice.

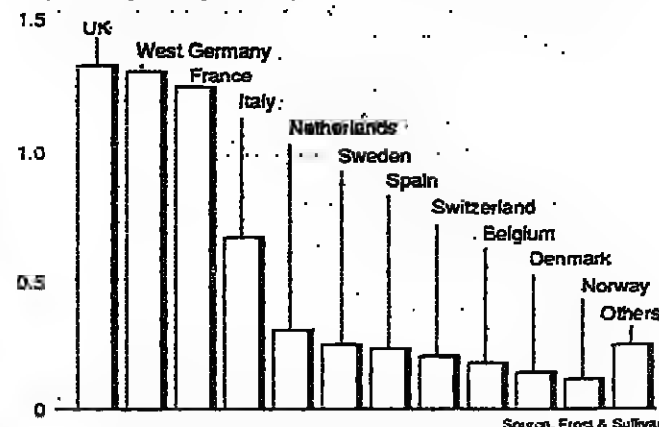
The principal move is a change of emphasis from hardware to software. Mr Jack Kuebler, IBM President said:

## IN THIS SURVEY

- International section and market trends ..... pages 2-6
- Computer industry sectors ..... pages 6-10
- The big issues ..... pages 8-10
- Peripheral equipment, services and software ..... pages 10-12

## European computer terminal market

Shipments by country in 1989 (\$ billion)



Editorial production by Michael Wiltshire

PICTURED, left: Scitex's "Visionary" system enables users of Apple Macintosh personal computers to design complete pages - including colour photographs and illustrations - and then pass the digital data into a high-performance Scitex electronic page composition (EPC) system. The EPC then produces high-resolution films for four-colour printing. In this way, publishers and designers can gain the benefits of high-end electronic colour image processing without a substantial outlay.

Sperry Rand, RCA and GE. Fujitsu (now Japan's largest computer manufacturer) was just a tiny telecommunications maker with annual sales of \$6.4m.

Today, the picture is entirely different. The Japanese makers are dominant in Japan and are becoming steadily more influential in the west through a series of imaginative marketing and technology exchange agreements. While still individually small compared with IBM they are the only real threat to the US company's international dominance.

Where does all this leave Europe's computer manufacturers? It is received wisdom to say they are in need of a measure of rationalisation to provide critical mass and economies of scale. If they are to survive and grow, they have to extend their influence beyond home markets and find ways of financing increasingly heavy research and development costs.

Partnerships are one answer. Siemens took over its competitor Nixdorf at the beginning of the year when unsustainable losses, caused by over-expansion into a declining market, started to overwhelm the mini-computer manufacturer. The deal has now been cleared by the West German cartel office,

and the two companies are combining in a new venture Siemens Nixdorf Information Systems. Details of how the new company will operate are now being worked out. Philips of Holland, which has a dismal record in information technology, and Olivetti of Italy, Europe's most successful small computer manufacturer, have been linked as likely partners. International Computers of the UK, part of STC Group, has made no secret that it is seeking a partner to help shoulder its research and development expenses.

One pressure for change is the advent of the single unified market after 1992. But as a recent British Computer Society study noted: "In reality, companies in the IT marketplace will not be operating in one large, free, homogeneous market using the same currency under the same law... in sum, the benefits of scale will be more difficult to achieve than the American model suggests."

Hostilities may have commenced in earnest, but it will be some time before the dust of battle clears sufficiently to establish the winners and the losers.

\*Computers Inc.: Marie Anchordoguy, Harvard University Press, 1989.

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\*Source: IDC Survey, Financial Times 29.09.89

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## COMPUTER INDUSTRY 2

Alan Cane examines changes in Britain's computer industry

## US companies do better in UK

THE UK computer industry is less a single entity than a collection of smaller industries growing at different rates and with different challenges and opportunities.

The picture is further complicated by a clear distinction between indigenous companies and those owned by foreign, principally US, parents. Europe in general and the UK in particular is proving the salvation for many US companies, left with stagnant revenues in their home country where industry growth has been sluggish for the past three years.

The troubled minicomputer companies - Wang and Data General, for example - have performed well in the UK while losing money in the US. Mr Ronald Skates, president and chief executive officer of Data General, says: "The UK is probably our shining example of a well-run organisation which direct appeal to the market place. The UK management has always been ahead of many other parts of our organisation in recognising what is going on in the marketplace."

International Business Machines, the world's largest computer company, together with Digital Equipment and Unisys, the world number two and three respectively, also fared better in the UK than in

the US. A partial explanation is that the market for data processing equipment, especially the smaller machines, is still very active in the UK and Europe in general, while it is close to saturation in the US.

Indigenous UK computer companies can be divided into three broad categories (this does not include software and systems houses or dealerships which are examined later in this survey).

First, companies supplying a full range of computers from

**Europe, and the UK in particular, is proving to be the salvation for many US computer companies**

mainframes to microcomputers. The UK's only representative in this category, International Computers (ICL), part of the STC group, has been performing well in recent years and, along with Olivetti of Italy, is one of the few European hardware manufacturers to turn in a profit in 1989. Its revenues in 1989 grew to £1.6bn with profits of £146m making it one of the world's more profitable computer companies.

ICL manufactures mainframe computers using high

performance chips designed by its own engineers but manufactured by Fujitsu of Japan with which it has long standing technology agreements. Earlier this year it made a bid for a leading position in the fast developing market for medium sized business computers running the "Unix" operating system. Unix now seems set to become the industry standard for operating software in the small to medium sized computer range.

The new ICL machines, the DRS 6000 series, follow the industry trend to reduced instruction set computing (risc) designs, where simplicity in chip design is set off against highly specialised software to give dramatically improved performance. ICL has been the target of extensive speculation over the past few years as its name has been linked with a range of possible partners both European and Japanese.

The computer industry world-wide is going through a period of consolidation and ICL has never made any secret of the fact that it is seeking a partner to help defray the heavy research and development costs which are essential for companies wishing to remain at the leading edge of information technology today. Olivetti has been touted as a

possible partner, as has Fujitsu. Mr Arthur Walsh, STC chairman, says the ideal partner for ICL would have technological expertise in areas where ICL is weak.

ICL is becoming, in any case, more of a systems house, able to integrate hardware and software to provide computing solutions for its customers, than a hardware manufacturer, with particular strengths in local government - where it has a leading position in community charge systems - and in retail systems.

The second broad category of UK computer companies includes the manufacturers of small computer systems. Amstrad, for example, is one of Europe's largest suppliers of personal computers, although its forte seems to be the small business and home computer market rather than the corporate market where sales of its more sophisticated products for "power users" have been disappointing.

Pison, which concentrates on portable computers, grew sales by 63 per cent to £31.4m this year but its pretax profits at £3.4m were disappointing. It introduced, however, a remarkable range of "notebook" computers with extended battery life and powerful graphically-orientated software.

Personal computer manufacturing is an intensely competitive business, sensitive to economies of scale and offering low margins. Apricot, for some years, the UK's leading manufacturer of high performance personal computers or workstations has finally bitten the bullet and got out of altogether, selling its hardware division including a manufacturing plant, research and development facility, sales and marketing organisation and an Australian subsidiary to Mitsubishi.

**Specialist software groups are expected to form the UK computer industry of the future**

bishi Electric of Japan for £39m.

Industry analysts thought the company got a good price. While the manufacturing division had external sales of about £70m (out of Apricot's 1989 revenues of £106m), its profits before group charges were £2.5m. Essentially, Apricot was making no money from its hardware operations.

There are a number of specialist manufacturers in the UK who continue to exploit niche markets. Research

Machines, for example, with a powerful base in college and university computing, announced one of the first computers to use Intel's top of the line 80486 microprocessor chip last year aiming it at the computer aided design market.

Opus Technology has been concentrating on data security and launched a product called Data Safe which uses physical barriers and two memory systems running in tandem to provide new levels of security and data integrity.

Acorn Computers, with Olivetti as its major shareholder, says it is achieving good acceptance of its "Archimedes" computer which uses "risc" technology. Some 85 per cent of UK schools use Acorn machines.

There is also a tiny group of manufacturers building exotic machinery. Meiko, which builds arrays of transputers into supercomputers is one example. AMT, which has developed the ICL distributed array processor, another.

The third category of UK computer companies involves a heterogeneous group of small companies, growing rapidly through organic growth and acquisition and specialising in particular areas of the computing services business. It includes Headland Group with particular interests in accounting software, Misys with diverse interests, Ferrari in maintenance and Kewill Systems specialising in manufacturing software.

It is companies like these which are expected to form the UK computer industry of the future.

## Lively market in Japan

THE JAPANESE computer market is growing steadily in all sectors, with the exception of desktop publishing. One of the fastest expanding areas is engineering workstations. More powerful than personal computers and one stage below mini-supercomputers, they are widely used in banks, securities houses, universities and offices.

Competition also remains strong in the personal computer sector. In the year to March 31, 1989 sales topped ¥760 bn - a leap of almost 20 per cent from the year before - with 1,670,000 units shipped. NEC Corp. is the clear leader in this sector, although it faces constant challenges from rivals, including Sharp, Toshiba, Mitsubishi Electric and, increasingly, IBM.

Another sector to watch is the mainframe market, particularly supercomputers, following an agreement reached during Japan/US talks in March to open public sector procurement to foreign-built machines.

Workstations are becoming increasingly popular due to their low prices, high performance ability and Japanese language software applications.

The market is estimated to be worth nearly ¥200 bn, with the 60,000 units shipped in 1989, nearly doubling the figures of the year before.

Sony Corp.'s surprise entrance on to the undeveloped scene three years ago with its NEWS workstations, shook competitors Digital Equipment Corp. Japan and Nihon Sun Microsystems. The 68000 series NEWS workstation carried a low price tag of ¥2m, compared to the ¥2.5m rate for US-made total systems.

Following the promising debut, Sony Computer System Co. surged ahead with the NEWS series. It recently enlisted the skills of competitor Nihon Apollo Computer Inc.'s former president Shigeo Inaoka to lead the ¥300m workstation subsidiary. Shipments of NEWS workstations continue to rise, posting 12,000 units in 1989.

But industry watchers say the firm could have difficulty holding on to its high ranking. One of its two mainline products, PopNEWS, a widely-used basic model, costing less than ¥1m, was recently found to be plagued by bugs - and sales plummeted.

Workstation market leader Nihon Sun Microsystems shipped 14,500 units in 1989. Yokogawa Hewlett Packard, which bought Nihon Apollo Computer Inc. in 1988, will introduce a low-priced, speedy entry level machine in its HP-9000 series of workstations this year.

In the PC market, the average consumer in Japan is spoiled for choice. Browsing through the wholesale electronics centre in Tokyo's Aki-

habara district, he or she is faced with a wide variety of operating systems - standard MS-DOS, OS/2 for 32-bit computers, the kamii-based JS-Window, MS-Windows from Microsoft, and UNIX from AT&T that comes in both English and Japanese versions.

Most Japanese manufacturers are trying to hedge their bets to cover the diverse market, anxious not to commit themselves to any one system. Canon, for example, produces a PC in the AT/AX category, at the same time acting as an agent for Apple Computer and maintaining an OEM deal with Hewlett Packard.

But NEC, with Japan's largest software collection, is big enough to go it alone. Its mainline product is the PC-9800 series of 16-bit computers that uses the company's proprietary operating system. Compared to the previous year, sales of the PC-9800 rose by 30 per cent to about 800,000 units in the year to March 1990.

The firm's 32-bit machine sales shot up by about 100 per cent to almost 250,000 units, and laptop sales rose by a massive 150 per cent to about 180,000 machines.

The notebook-size PC-9801, first shipped in December last year, reached 100,000 sales in just four months. NEC forecasts further rises in domestic PC sales in 1990: the target is ¥480bn, up 15 per cent on this year, with sales of 1,200,000 units, up 20 per cent, a spokesman said.

NEC's rivals have wisely joined forces to fight the PC giant. In 1989, 10 companies agreed on a common, Japanese-language operating system for 32-bit PCs. This enables consumers to use programs in any of the group languages on a major breakthrough on this previously unco-ordinated Japanese PC market.

NEC is unlikely to be unduly worried as its sales are so strong. But it surely recognises the need for a common system. In the mid-1980s, NEC agreed

to allow Seiko-Epson to produce an operating system fully compatible with its market-leading PC-9800 series. Within months, the Epson PC-286V was challenging NEC's popular PC-9801-VX21 with its faster speed and lower price.

One of the latest entries on the market is Apple Computer Japan's new three-model series of its Macintosh PC. Twice as fast as earlier versions, the Macintosh 11x range costs from ¥1.5m to ¥1.8m.

Toshiba - the pioneer of the small, lightweight laptop PC market with its Dynabook series - now faces competition from Sony, which introduced its Palmtop PTC-500 in April. The machine, the size of an A-5 sheet of paper and weighing just 1.3 kg, sells for ¥158,000. It has similar capacities to laptop PCs, and an extra feature PCs, which Sony hopes will boost sales: users can write directly onto the screen with an electronic stylus and, due to fuzzy theory techniques, the machine can decipher unclear handwriting.

Supercomputers, the top of the mainframe range, are incredibly fast, high-capacity units used by scientists designing aircraft, weapons and other state-of-the-art products.

Pressure had been building up as American makers, led by Cray Research, were finding it almost impossible to break into the highly-protected public sector supercomputer market, where Japanese makers' unrealistically low bids were invariably accepted by the Japanese government. The issue was one of three discussed in

**Report by MARTINA GANNON in Tokyo**

the bi-lateral Super 301 trade talks.

Following the March agreement, Japan's three leading supercomputer makers, Fujitsu, NEC and Hitachi, will face competition from US and other makers. The Japanese machines are well ahead in peak performance ability, but lag in average operating speed, industry sources say. The leader, Fujitsu plans to launch what it calls the world's fastest supercomputer this year. The VP2000 will have a maximum calculation speed of 4bn flops a second. That is eight times faster than Cray Research's Y-MP unit, but the US machine features eight simultaneous processors, compared to the VP2000's two.

Daihatsu Motors, a minicar-maker, agreed in March 1990 to purchase Cray's Y-MP2/118 model for \$6m. It will be installed in October, for collision analysis in the development of new vehicles.

Fujitsu, leader of the medium-sized MF sector in the year to June 1989, appears to have been overtaken by its rival, Hitachi, which recently launched a mainframe operating system compatible with IBM. The firm claims the data-processing capacity of the VOS/AS is 8,000 times greater than other systems. It provides 16 trillion bytes for data storage and processing.

Market watchers attribute Hitachi's success in developing the system, to secret agreements made with IBM during the 1980s. Fujitsu, on the other hand, became embroiled in a long and heated copyright dispute with the US giant, eventually settled by the American Arbitration Association ordering Fujitsu to pay IBM about \$400 m. IBM was required to provide the Japanese firm with certain information necessary for software development.

The desktop publishing (DTP) and electronic filing systems market has not yet reached its full potential, held back by high costs and poor software compatibility. Another area Japanese computer makers lag behind in is the creation of innovative software.

Ricoh, Tokyo Computer Service and Computron plan to set up a joint software developing company in April. The firm targets initial year sales of ¥200m. Asci Corp., a Tokyo-based computer software and publishing company, is planning to build Japan's first high-tech urban development. In the unique project, the firm aims to establish a personal computer software development and semiconductor production base and a city of about 50,000 people by the year 2000.

So the domestic computer market in Japan appears to be flourishing, despite setbacks caused by non-standardized equipment and non-compatible operating systems. One area in particular to watch will be notebook-type computers. The Japanese skill for producing small but high-performance units is boosting this already competitive market. About 200,000 machines were shipped in 1989 and that figure is expected to more than double in 1990, according to telecommunications marketing firm Aquarius.

## The average PC-buyer in Japan is spoiled for choice

habara district, he or she is faced with a wide variety of operating systems - standard MS-DOS, OS/2 for 32-bit computers, the kamii-based JS-Window, MS-Windows from Microsoft, and UNIX from AT&T that comes in both English and Japanese versions.

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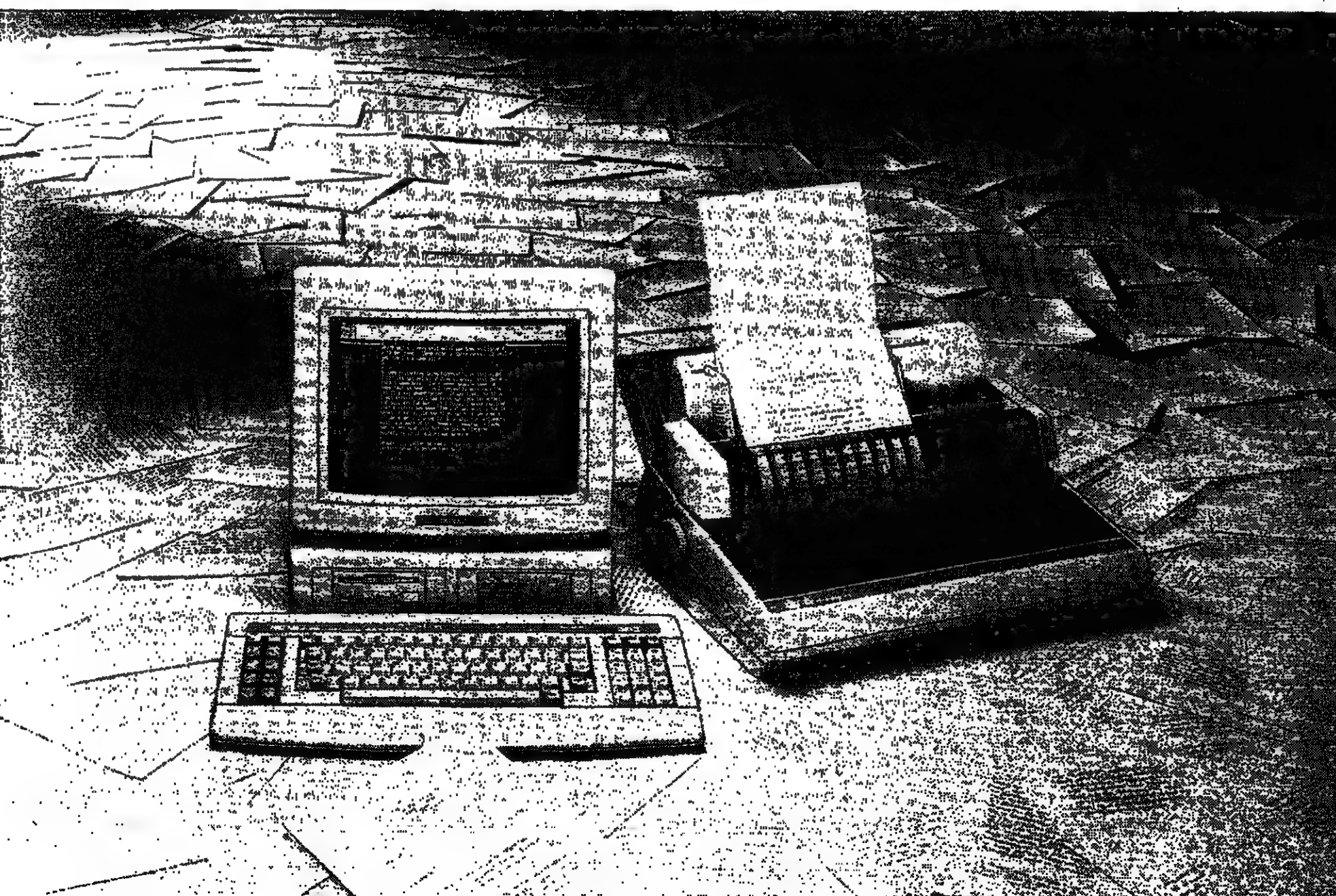
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## THE US MARKET

## Uncertainty prevails

JOHN AKERS, IBM chairman, late last year had a succinct prognosis for the state of the US computer market: "Stress and turmoil."

His words have seemed prophetic as the accelerating pace of technology change has combined with sluggish economic conditions to create enormous uncertainty throughout the computer industry.

The effects are being felt even among the industry's giants: International Business Machines and Digital Equipment have both undertaken major efforts to reduce their US workforces. Over the past year some 40,000 jobs have been lost in the US computer industry.

Sales of computers in the United States this year are expected to total about \$30bn. More than half of this amount will be accounted for by sales of desktop personal computers, which sell for an average price of less than \$5,000.

This enormous volume of sales - more than 12m units - is nonetheless seen as a "slowdown" by many market analysts. It represents a growth rate, over 1989 sales, of less than 9 percent, far lower than the personal computer market's growth of 20 percent and more in previous years.

The "squeeze" in the personal computer market is being felt primarily by lesser players while the market leaders - IBM, Apple Computer and Compaq Computer are gaining market share.

While personal computer



John Akers, IBM's chairman: prophetic words

market growth is slowing, more powerful computer workstations are expected to maintain a steady 25 percent growth rate in the US this year to achieve total sales of close to \$4bn.

Workstation market leaders Sun Microsystems, Hewlett-Packard and Digital Equipment are involved in a pitched battle to outdo each other in terms of performance and price. Profit margins are being squeezed as prices are slashed. Digital Equipment, earlier this month, cut prices on its low-end workstations by 25 to 40 percent, for example.

The performance of these desktop "hot boxes" continues to accelerate, fueled by advances in microprocessor chip design.

International Business Machines re-entered the workstation fray late last year with the launch of a new range of products that outperform all comers.

IBM is expected to win a 10 percent share in the \$6.5bn world market for workstations this year to become a serious contender for the first time since the workstation market took off in the mid-1980s.

The increasing power of workstations and personal computers represents a major challenge to the traditional suppliers of multi-user "mid-range" computer systems based upon minicomputers.

Digital Equipment, the leading minicomputer manufacturer, has addressed the challenge head on by mounting its own workstation defence. This month Digital unveiled a new range of high performance workstations aimed at both office and engineering applications which are providing performance close to that of IBM's new offering.

Hewlett-Packard, the number three US computer manufacturer after IBM and Digital, has similarly launched a renewed offensive in the workstation market through its acquisition of Apollo Computer.

The proliferation of desktop workstations and personal computers led to the need for "local area networks" that link the desktop machines to allow them to share data. Now, the scope of networking is quickly growing to encompass all of the computer systems in a corporation - known as "enterprise wide" networks.

Plugging together existing and new computers of different types from several different manufacturers is a major challenge. Unless it is done right, the result can be a system that uses much of its computer power just to translate data into forms that can be "read" by each of the computers on the network.

The need for "inter-operability" between computers from different manufacturers is accelerating the trend toward "open systems" based upon industry standards, rather than proprietary systems.

In tandem with this switch is the move toward distributed computing based upon the "client-server" model in which

"client" desktop computers share the resources of "servers" such as printers, data-base storage systems and high speed computing units.

All major US manufacturers have endorsed the concept of "open systems." Some, however, have done more to implement industry standards than others. Hewlett-Packard, an early proponent, is championing "open systems" throughout its product range.

Digital Equipment is also moving toward open systems, with its latest workstations and servers. Digital says that it aims to be the top supplier of open systems in the 1990s.

The growth of distributed computing is changing the role of the mainframe computer from that of a central "host" to that of a network "server." Mainframe computer sales, dominated in the US by IBM, remain strong, the company

**Over the past year some 40,000 jobs have been lost in the US computer industry, reports LOUISE KEHOE**

claims. IBM is increasingly challenged, however, by the plug-compatible mainframe computer manufacturers, Hitachi Data Systems (formerly National Advanced Systems) and Amdahl. Price competition in this segment of the market has become fierce over the past year.

Mainframe computers, far from being the dinosaurs, still represent about 25 per cent of total computer revenues in the US. With anticipated growth at a modest 4 per cent per year, however, the influence of the mainframe on the overall market is gradually diminishing.

At the very top of the performance scale in computing, there has been a proliferation of new approaches to "supercomputing" with the emergence of new important classes of computers known as mini-supercomputers and parallel mini-supercomputers from companies such as Convex Computer and Alliant.

These systems provide power close to that of a multi-million dollar supercomputer - for a fraction of the price.

The US computer market in 1989 with forecasts for 1990 and 1991 (\$m)

	1989	1990	1991
Total computer systems	72.1	80.0	105.9
Corporate resource computers	15.0	15.7	18.8
Business unit computers	5.8	6.4	8.3
Large department computers	4.2	4.4	5.1
Small department computers	3.3	3.4	3.8
Work group computers	4.3	4.3	4.5
Workstations	2.9	3.5	6.3
Personal computers	36.6	42.1	60.3

Source: Dataquest

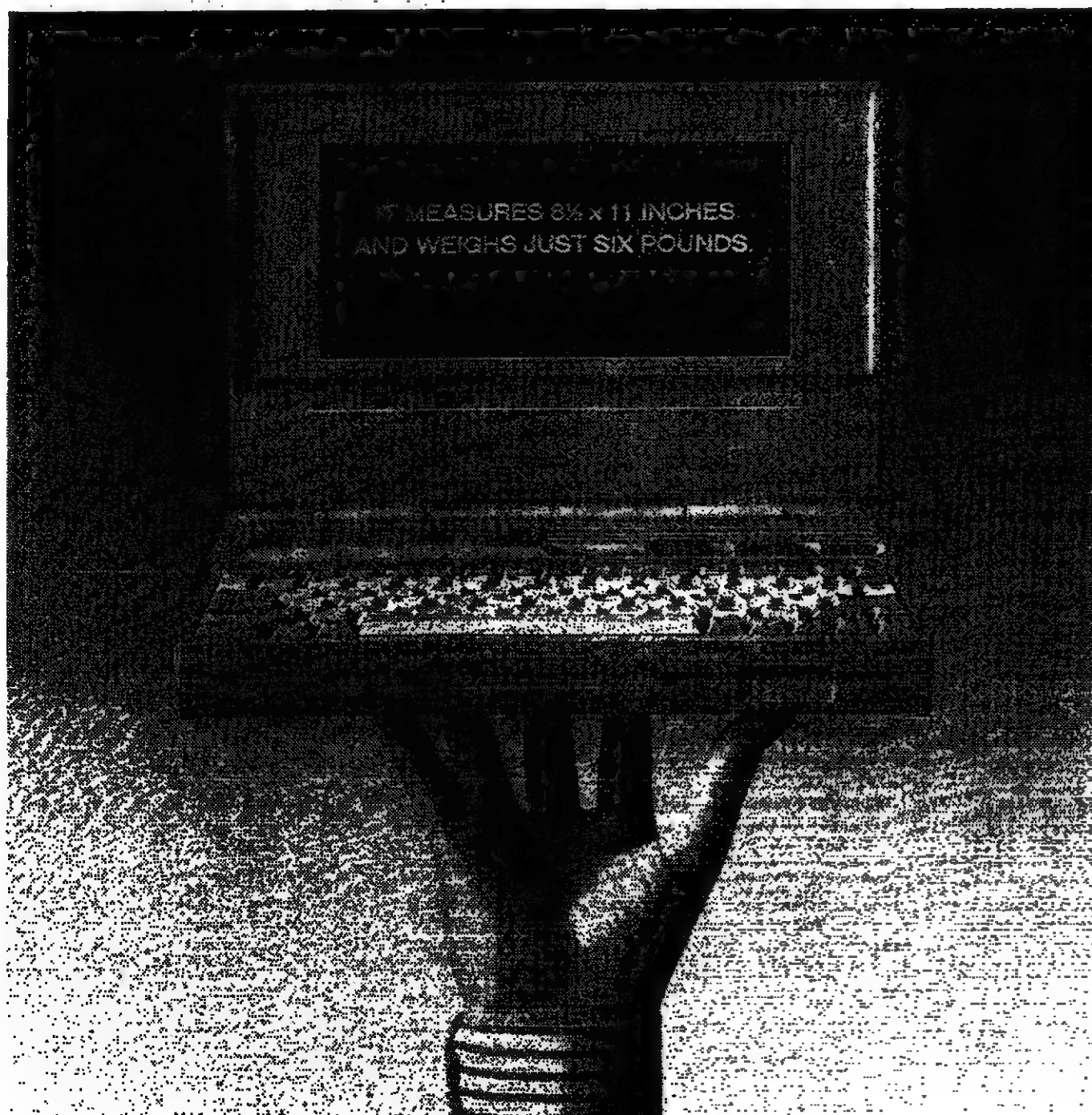
US computer manufacturers, 1989 revenues

	\$m	% change 88-89
IBM	56.1	6
Digital Equipment	12.5	2
Hewlett-Packard	8.1	25
Unisys	7.5	1
MCR	5.3	0
Apple Computer	5.3	21



A computer specialist at IBM's Havant manufacturing plant, near Portsmouth, checks a 3.5in disk drive. IBM, the world's largest computer company, has recently fared better in the UK than the US.

# Compaq makes another sizeable contribution to personal computing.



A world leader in portables presents two new lightweight battery powered portable PCs, the COMPAQ LTE and COMPAQ LTE/286.

Each weighs a mere six pounds and occupies a space no larger than a copy of 'The Economist', yet they offer the functionality of desk-bound personal computers, so you can run your favourite software. Computing power you can take with you anywhere and use everywhere.

The batteries provide over three and a half hours of continuous operation, or you have the option to run the PCs from your car cigarette lighter or the mains.

You can work as well on the road as you can in your office; processing orders, updating stock levels, re-working spreadsheets... whatever.

A 3 1/2" diskette drive comes as standard and the fixed disk drive lets you carry around a few filing cabinets' worth of information.

An optional 2400 baud modem lets you transfer current data directly to the office

by phone, cutting out time-wasting trips back to base. Or when you do go back, you aren't lugging piles of paper for your secretary to type up; it's all in your COMPAQ PC ready to print out.

With standard-spaced keys, you won't find fingers turning into thumbs. And wherever you are, the backlit screen makes it easy to work in any light. Now all you have to do is decide which one fits you best.

The COMPAQ LTE is excellent for standard record keeping, word processing, spreadsheets and electronic mail.

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## COMPUTER INDUSTRY 4

## WEST GERMANY

## Wave of mergers predicted

NIXDORF made its reputation by standing tall to computer giants such as Siemens and promoting its own proprietary operating systems – the kind of pride which helped cause the company's financial problems and made it vulnerable to a takeover.

Nixdorf had previously known only success: it could not recognise the need to adapt to market changes early and concentrated too heavily on geographically narrow markets. It needed a partner with a stable financial base, and Siemens – with the joint acquisition of Plessey from GEC and Rolm Communications from IBM behind it – easily added Nixdorf to the list.

Few analysts believe Nixdorf will be Siemens' last acquisition – and many predict an uncertain future for other companies, such as SEL, IOL and Philips in the light of Siemens' drive to become the industry's pan-European player. In the words of one telecommunications company spokesman: "Nixdorf's fate unfortunately awaits still more companies."

International Data Corp (IDC) marketing executive,

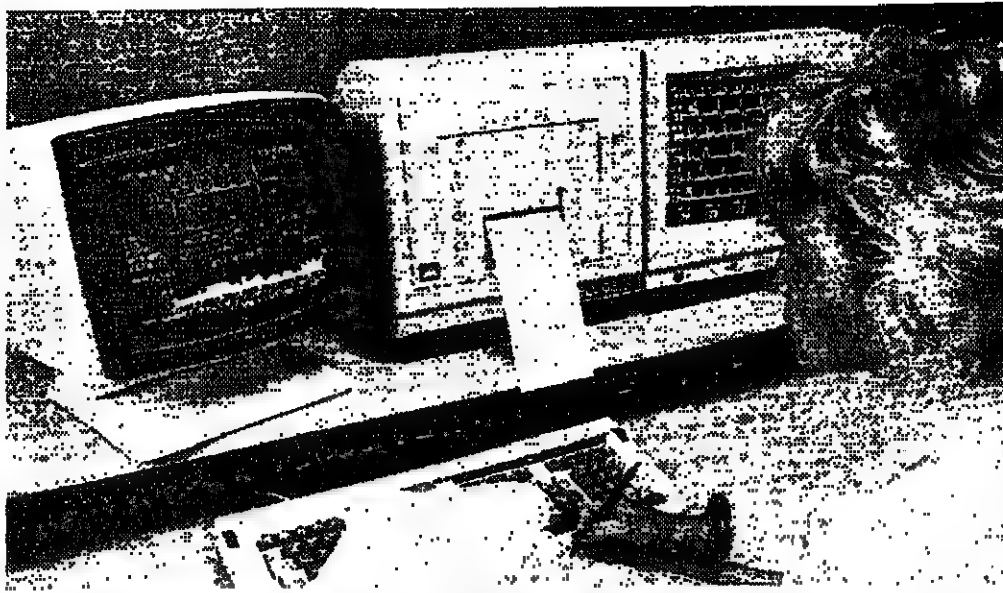
**'Companies no longer have a choice. In the long run, it's either acquire – or be acquired'**

Mark Buffett, said he expects other computer firms to join Siemens – or be "swallowed up by it."

He does not hold Siemens to be a "direct threat" to other information technology (IT) companies, but does maintain that the creation of Siemens-Nixdorf Information Systems AG signals the start of a wave of mergers and acquisitions that will drastically change Europe's computing landscape.

Buffett added: "Companies no longer have a choice. In the long run, it's either acquire or be acquired."

Based on information from



A patient monitoring system in West Germany: here, a technician operates a patient data management system, produced by Heilige of Frei burg. The system provides centralised monitoring of car diac-risk patients – a data storage facility provides more than 88 hours of electro-card diagram readings, allowing doctors to check and analyse heartbeat irregularities.

IDC's trends and issues report, the union of Siemens and Nixdorf creates an IT operation which rivals IBM in Europe and has successfully pumped DEC down a notch to third place.

In terms of the home market of West Germany, Siemens and Nixdorf overhaul IBM to take first place. On 1988 revenues for Western Europe, Siemens-Nixdorf would have IT revenues of nearly \$3.2bn, some 73 per cent more than their nearest rival DEC, but still only 40 per cent of IBM's revenues.

For this reason, Buffett says,

the balance in Europe has been affected – a development that will "force DEC and others to take a good hard look at their marketing strategy for the future."

The strengths of the Siemens-Nixdorf fusion do not rest in the size of the operation alone, says IDC. The power of the combination rests in the fact that Nixdorf's strengths complement Siemens' weaknesses. Nixdorf has been able to build up its market presence in France, Spain and Britain – the same countries in which Siemens has been unable to hit

the mark. In 1987-88, for example, Nixdorf increased its market share in the UK by a total of 40 per cent. It also enjoys a small but significant US presence which provides Siemens a chance to penetrate the US market with its telecommunication equipment. In terms of the actual product lines, Siemens is strong in the large-scale systems sector, while Nixdorf has its strength in the small-scale system sector.

The report concludes that the two together create a powerful global player, and, as a result, become "the largest indigenous computer company, and one which can more readily compete with its US counterparts."

The Frankfurt-based Diebold Germany analyst, Dr Gerhardt Adler, says IBM and DEC do not have reason to fear competition from Siemens-Nixdorf yet – that will come when other companies merge with Siemens-Nixdorf to make a super-sized computer company. Adler says the fusion only marks the start of further such alliances, and ones that will not necessarily exclude the Americans.

Diebold's director of business planning, Dr Fritz Jagoda,

takes the scenario a step further and says he can imagine the eventual formation of a kind of "Trans-atlantic alliance," spurred on by the fusion of the possible involvement of AT&T.

Siemens-Nixdorf have changed Europe's computer landscape, but Dr Jagoda contends the companies neither upset the balance nor present a threat. He adds: "The development has upset the calm in the DP industry."

While it is clear that the formation of Siemens-Nixdorf will change the industry, may present a threat and does signal the beginning of what IDC calls "another chapter in the dynamics of the European computer market," analysts are unclear about what problems the companies, as well as their users, can anticipate.

Siemens-Nixdorf is faced with the problem of pulling together two very different corporate cultures and two largely dissimilar approaches to customer support.

The Siemens user group, Siemens-Informationstechnik Anwenderverein (SAIV), fully supports the fusion because it

**'The strengths of the Siemens-Nixdorf fusion do not rest in the size of the operation alone'**

offers users with a strong global supplier. But a number of problems face Europe's users, according to SAIV spokesman Joachim Zeller. He lists the difficulties: Siemens and Nixdorf are more concentrated upon themselves than concerned about the customers' problems – and a drop in overall quality might result.

The Reading-based X/Open vice-president of communications, Paul Tate, says the fusion "might not necessarily be the best way to respond to the growing demand for a pan-European network, but it represents one way in which companies can come to terms with an increasingly market-driven industry."

Mr Tate says he does not recognise the presence of a threat since "weights are only being re-arranged at one end." X/Open is an independent non-profit consortium, established in 1984, "to bring greater value to users from computing through the practical implementation of open systems."

On the subject of open systems, Mr Tate says that Siemens-Nixdorf could end up indirectly supporting X/Open's goals because it creates a major force in supporting standards.

Some analysts maintain the fusion could even speed Europe's move towards standard solutions. Both Siemens and Nixdorf support these so-called open systems. Siemens' solutions are based on the Unix operating system, and Nixdorf has also put more effort into Unix systems after realising that it was the company's own refusal to move to

**'The Siemens-Nixdorf fusion marks the start of further such alliances'**

open systems which accelerated its slide in the first place. Open standards are supported by the European Community. Supporting countries promote Unix because it allows compatibility – a significant plus in intra-governmental communications in a Europe without borders.

So far, IBM and DEC have been able to ignore this trend and promote their own proprietary systems. As a result, Unix-based systems remain largely incompatible with IBM and DEC systems – and often the user has to suffer the consequences. But Diebold's Dr Jagoda says this, too, will change. Unix, he adds, has not been forced enough by the EC, but it will receive a push from Siemens-Nixdorf.

Peggy Trautman

#### FORTHCOMING FT SURVEYS

##### Computers and communications

AMONG the forthcoming FT surveys related to the computer, electronics and communications industries will be the following:

- ☐ Automatic Identification..... May
- ☐ Computer Security..... June
- ☐ Japanese Computers..... June
- ☐ Desktop Publishing..... June
- ☐ Personal Computers..... September
- ☐ Office Systems and Technology..... October
- ☐ Using Computers..... October
- ☐ Computers in Finance..... October

Among the recent surveys which have featured computer-related topics were EUROPEAN HIGH TECHNOLOGY, published on Tuesday, March 20, and INTERNATIONAL TELECOMMUNICATIONS, on Thursday, April 19, 1990.

Editorial synopses for these surveys can be obtained from: The Financial Times, Number One, Southwark Bridge, London, SE1 9HL. Tel (01) 873 3337 (direct line to Carol Bilechuk, who also has the publication dates of other surveys already published).

## FRANCE

## Producers sailing in rough waters



Mr Francis Lorentz, chairman of Groupe Bull: ideas for ambitious projects

access to technology there. Clearly, the takeover of Zenith has been a big step in that direction, lifting Bull from the world's tenth to its seventh largest computer manufacturer. Bull, which now makes 70 per cent of its sales outside France – last year's total turnover was FF33.7bn – plans to be among the top five in the early 1990s.

Zenith gives Bull a complete microcomputer line, from "low end to high end, for both desktops and laptops and substantial market positions both in

**Francis Lorentz says that the future presents as many opportunities as challenges for Bull**

North American and Europe, and sufficient volume to compete effectively on a global scale," said Mr Lorentz at the time of the takeover.

His fourth goal is to improve Bull's productivity and profitability, mainly through simplifying the product line and trimming development costs, a process which Mr Lorentz believes will take four to five years.

Linked to this is goal five – to boost management skills, an area which Mr Lorentz feels has received insufficient atten-

tion over the year because of the problems faced by both Groupe Bull and Honeywell Bull.

The final aim is to encourage Bull to behave more like a single European company, rather than two separate businesses, by hiring staff at a European level and setting up common training programmes.

Earlier this year, Mr Lorentz unveiled a far-reaching reorganisation, designed to give Groupe Bull a more coherent structure to help it tackle the fast changes in the computer industry.

It involves splitting the group into four units, reporting to a central entity, Compagnie des Machines Bull, which will have responsibility for strategy, product line policy, human resources and the integration of research and development across the world.

The units are:

- Bull SA France, with 19,000 people running development, manufacturing and sales in France.

- Bull International SA, with 6,000 people running most of Europe, plus Africa, Latin America and south-east Asia.

- Bull HN, comprising 19,000 staff responsible for North America, Mexico, Italy, Britain and Australia.

- Zenith Data Systems, in charge of development, manufacturing and sales of the group's worldwide microcomputer and workstation products, accounting for roughly a third of the French group's overall sales.

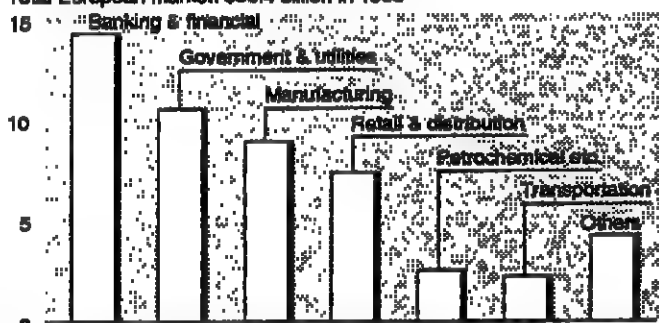
If that is Mr Lorentz's battle order for the start of the decade, the signs are that he has not finished yet. When asked by a French business magazine recently whether he might consider some form of alliance with Siemens, Mr Lorentz replied: "Two businesses can be competitors and partners at the same time."

"In the face of the Japanese threat, it is desirable that we have a common European stance... we have a certain number of ideas for ambitious projects."

Henri Labrit

## European computer hardware

Total European market: \$50.4 billion in 1988



Source: Frost & Sullivan

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# AST: Ten Years Of Achievement

Founded in 1980, AST Research was one of the first companies to offer expansion boards to increase the power and functionality of the IBM PC. One of their first products, SixPakPlus, was to become the largest selling enhancement board in history, and is still one of the most popular products of its kind today. But that was only the opening chapter in AST's rise to becoming one of the world's most respected makers of microcomputers and related products.

The early days of enhancing IBM's open architecture PCs provided a strong foundation for AST to apply its expertise. And in late 1986, they introduced the ultimate enhancement — their first computer, the AST Premium/286. Building on an excellent reputation for hardware and software compatibility, quality and reliability, the Premium/286 was a runaway success with both industry experts and customers.

Able to build on a strong multiple channel distribution strategy put in place for the earlier board-level products, AST computers were soon being marketed through a variety of channels throughout the world including major chains, independent dealers, value added resellers (VARs), large distributors, OEMs and U.S. government (GSA) approved dealers. Now, AST computers are found on desktops in businesses everywhere — from the very small to over 60% of the nation's largest — and in government agencies.

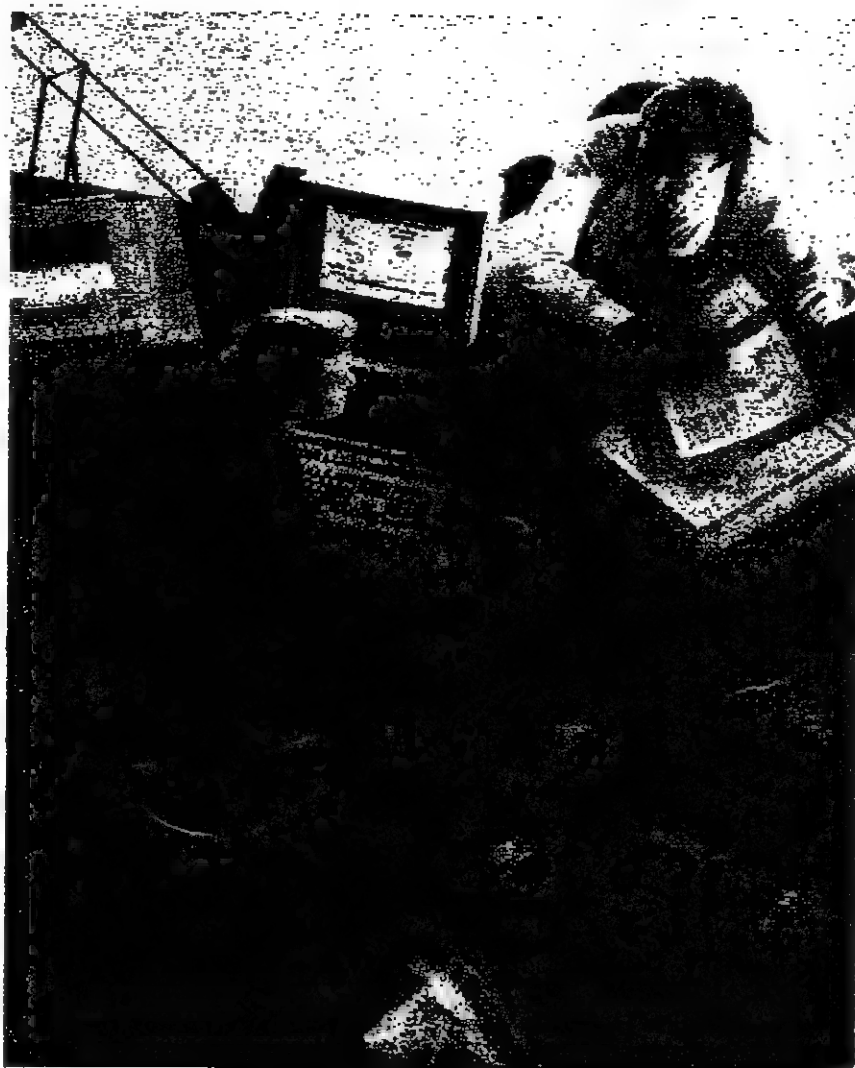
Today, AST offer a full family of computers — one for every performance and price range, for a variety of business and personal applications — from the entry-level Bravo/286 and Bravo/386SX to the high-performance Premium 386 and i486 based systems. They also continue the tradition of enhancing systems by offering award-winning memory, multifunction and graphics products, and provide for customers' connectivity needs with LAN, 5250 and 3270 products.

A cornerstone of AST's technological leadership is the growing popularity of the patent-pending Cupid-32 (Completely Universal Processor, I/O Design) architecture. This technology separates components according to whether or not they are likely to change as microprocessors advance. All hardware that is dependent on the type and speed of the processor, including the microprocessor, cache memory and numeric coprocessor are located on a plug-in, printed circuit board.

As a result, customers can avoid desktop obsolescence by upgrading AST's Cupid-32 Premium computers to the next level of performance by simply replacing a board. Upgrades can be completed in a matter of minutes, and can be accomplished throughout the Premium product line, from 386SX to i486-based products and beyond.

The underlying flexibility of Cupid-32 technology also allows AST to respond to changing market conditions with a very rapid product development cycle. In fact, AST was the first company to announce shipments of ISA i486 computers based upon Intel's production release version microprocessor.

AST's corporate headquarters are in Irvine, California but they are truly a worldwide company, marketing products in more than 77 countries. They also build them around the world, and design them to fit international requirements — AST manufacturing facilities are located in the United States, Hong Kong, Europe and Taiwan and AST support them wherever they are installed with offices established throughout the U.S., Europe and in Canada and wholly owned subsidiaries in the United Kingdom, France, Germany, Switzerland, Italy, Hong Kong, Taiwan, Australia and Japan.



Over 2,000 employees are dedicated to delivering the highest quality desktop computers and related products. It's a commitment that begins long before the products reach the desktop. And it's demonstrated in every area of the company.

AST's engineering and marketing teams work closely together to design innovative products answering the needs of the marketplace. Starting at board level design, AST

uses CAD/CAM and surface mount technology to reduce component size and product cost. ASIC (Application Specific Integrated Circuits) technology is another key strategic asset allowing AST to remain a leader in product development. With ASIC, AST can envisage and create custom products that provide exceptional value and ease of upgradeability.

AST's commitment to quality is second to none, and it allows them to boast one of the lowest return rates in the industry. Thorough examination and testing are prevalent throughout the entire manufacturing process, including a complete burn-in process for every computer. Reliability labs, agency compliance testing (FCC, UL, CSA, VDE, etc.), product safety labs and compatibility labs also ensure quality. A few of their commitments to compatibility include unique enhancements to BUS technology allowing faster operation and selectable CPU speeds for strict software compatibility.

AST are dedicated to their customers. AST's Product Support Centres are staffed by fully trained technical support teams available to answer any question by telephone as well as 24-hour on-line electronic systems which provide a variety of information, including free software upgrades. Should an AST product ever need repair, service centres and optional on-site service is available throughout the world.

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## A LEGACY OF AWARD-WINNING PRODUCTS

### 1983

► AST's first memory/multifunction board, *ComboPlus*, earns two first-place titles in the PC "World Class" Competition.

### 1984

► *SixPakPlus* ranks No. 1 on the *Software Hot List* for the first time. It would remain on the hot list for most of the next five years. It becomes the standard against which all multifunction boards are compared.

► *SixPakPlus* named the favourite memory/multifunction by PC World readers in its "World Class" competition. Readers would choose it again for the next five years. *SuperDrive* chosen top disk emulator.

### 1985

► *Rampage!* selected the "Most Significant Product Of 1985" by PC Week.

► AST's LAN product ranked among top six by PC World.

### 1986

► *Rampage!* rated excellent in five categories and earns top score by *The Journal of Corporate Computing*.

► *Computer Reseller News* names AST top add-in board supplier.

### 1987

► AST Premium/286 awarded Editor's Choice by PC Magazine.

► "The Best Of 1987" award is presented to AST for the Premium/286 by PC Magazine.

### 1988

► Premium/286 merits PC Digest's top rating, and is the only system to earn overall rating of excellent.

► LAN Magazine recognises the AST Premium Workstation/286 for its sleek design.

► Premium/386 named top-ranked 386 system by InfoWorld.

► AST picks up Reader's Choice awards in six categories of PC World's "World Class" competition — AST Premium/286, *SixPakPlus*, *Rampage!*, *Advantage* Premium and *SixPakPlus* Premium with the Premium/386 voted one of the most promising newcomers.

► AST rated number one in technical support in PC Week survey.

### 1989

► *RampagePlus* 286 voted best EMS 4.0 board and wins "Product Of The Year" award from InfoWorld.

► Byte magazine gives AST an award of excellence for its work with EISA.

► AST Premium 386/25 earns the highest score for 32-bit memory upgrade in PC Week "Scoreboard."

► InfoWorld magazine gives the AST Premium 386/33 its "Best in its Class" distinction.

► Government Computer News readers select the AST Premium/286 as their top choice.

► PC World selects the AST Premium 386/33 as its "Best Buy".

### 1990

► AST Premium 386SX/16 earns the PC Magazine Editor's Choice award.

► The German publication, *Computer Persönlich*, reviews the AST Premium 386SX/16, ranking it number one.



## COMPUTER INDUSTRY 6

## Manufacturer's profile: Olivetti of Italy

WITH LAST year's earnings at Olivetti, Italy's leading computer manufacturer, due to be announced in a matter of days, there are no prizes for guessing which way profits will go.

Speaking to the press in February, Mr Vittorio Cassoni, the group's highly-regarded managing director, admitted that net profits would fall by slightly less than the 45.7 per cent average posted by the 18 leading US computer hardware makers. First half pre-tax earnings have already fallen by 40 per cent to L103bn.

And, although sales rose by 7.5 per cent to over L9,000bn from L8,407bn in 1989, the company warned that its dividend would be cut from the L340 a share paid previously.

While analysts and shareholders wait to hear the full results, Mr Cassoni himself remains bullish about the future. Pointing to the severe problems of rapid downsizing and sharply declining margins which have afflicted much of the world computer industry, he argues that Olivetti has already crossed a bridge that some of its competitors have yet to confront.

Underlying his confidence is the radical restructuring which Olivetti pushed through in 1988 whereby vertical integration gave way to a much more market-dictated organisational strategy. Jobs have been cut - with the prospect of some further small losses to come - while the company has addressed the problem of product innovation through a new family of powerful workstations based on "open systems".

Olivetti's most recent launch, its CP486 "computing platform" unveiled last October, and one of the first machines in the field based on Intel's new 486 microprocessor, marks a further blurring of the traditional divisions between mini personal microcomputers.

Confusing at the outset, the group's current division into four separate operating companies has been an essential tool in surviving the far more difficult trading conditions now facing the industry, insists a spokesman.

Based on its 1989 figures, Olivetti Systems and Networks (OSN), the main subsidiary designing and producing personal computers, minicomputers and local area networks, accounted for about 55 per cent of group sales last year, with some 37,000 employees and sales of around L5,000bn.

Meanwhile, Olivetti Office,

## Bullish about the future

which is responsible for a range of office equipment, including typewriters, faxes and computers, follows with 36 per cent of turnover. Then comes Information Services, the system integration division, with 5 per cent, and lastly, the Technologies Group, which makes a range of hardware for the information technology business accounting for about 4 per cent of total sales.

As a second part of the strategy, the company has been attempting to build on its already established presence in areas like banking branch

Report by  
HAIG SIMONIAN

automation and government business, where it has a sizeable market share.

Following its \$174m purchase last year of ISC, a US banking automation equipment maker which has been combined with Olivetti's existing Bunker Ramo subsidiary, the group has jumped to second place among makers of bank automation computer systems in the US, with a market share of around 28 per cent.

Recent months have brought a host of international orders for the group's banking technology. Last month Lyonnaise de Banque, the French financial institution, added its name to the list with an order for 600 of Olivetti's mid-range P500 personal computers to be used as work stations for automating back office functions.

The value of the order has not been disclosed, but Olivetti is hoping that it may be selected to fill the rest of the bank's 1,650 unit total requirement.

But "order of the year" still goes to Rabobank, the Dutch banking group, which last year announced its plan to buy 2,000 Olivetti LSX minicomputers and 25,000 PCs, representing an

initial investment of F1750m.

Meanwhile in the UK, the company has scored a hit by being chosen by the Post Office for an order to help automate its business, as well as supplying computers to a number of leading building societies.

While there has also been progress on the government side, Olivetti's hopes of breaking into computers for the retailing business remains largely in the pipeline. The rationale behind the strategy is clear. There are close similarities between banking and retailing automation, as Mr Cassoni points out.

Moreover, the two areas are, if anything, drawing steadily closer thanks to the growing presence of electronic point of sales technology. However, major orders have yet to come for Olivetti.

Meanwhile, the company remains tight-lipped about potential collaborative deals, such as the recently reported suggestion of a link with Philips - "exploratory talks are ongoing as regards specific technological areas, among which are printers and components" says a spokesman. But any suggestion of closer collaboration, or of Philips bidding for the Italian group, which last year was the world's second biggest producer of PCs in terms of volume and fourth biggest in terms of value, is strenuously denied.

Likewise rumours about changes of ownership of any of its operating divisions. Such talk has become more prominent since the 1988 restructuring, which potentially made it easier for the company to spin off specific parts of the group. Against the background of the last year's collapse of its reciprocal small computer marketing agreement with AT&T, the US telecommunications giant, which has a direct interest in Olivetti, the room for such speculation has undoubtedly grown.

Events so far have confirmed the company's intention to retain its present structure and fight out any problems in the market-place, although the message has still not fully penetrated the bourse, where the group's shares have moved with every new hint of change. With the additional responsibility for OSN now on his plate, following the decision by Mr Luigi Mercurio, its managing director, to step aside, it is now up to Mr Cassoni to show that Olivetti is on a steady - and winning - course.

THE SMALL, exclusive world of supercomputers has undergone a profound transformation in the past few years. In 1988, it was a simple business, dominated essentially by two companies, Cray Research and Control Data, both of the US.

Cray had a two-thirds share of the 350 or so true supercomputers installed worldwide. While there were reports of very fast machines from the Japanese manufacturers, Fujitsu, Hitachi and NEC, the US companies seemed to have a stranglehold on the market for the foreseeable future.

Since then everything has changed, and the market is in a state of flux. The major differences are:

■ The overall supercomputer market is fragmenting into a series of niche markets, each distinguished by a particular technology and a particular level of price performance.

■ Cray, while still making the fastest available commercial computers, is finding it difficult to dominate the new market as easily as it did the old. Cray itself has split off its advanced systems division under the direct control of founder and chief designer Seymour Cray as a separate company to protect its development activities from the vagaries of the stock market.

■ Control Data, with a history of shaky finances, decided to pull out of supercomputers, rather than continue to invest the \$100m or so each year in research and development expenses to stay ahead of the game.

■ The rise of the minisupercomputer, exemplified by machines from Convex Corporation, has opened the frontiers of supercomputing to a broader group of customers.

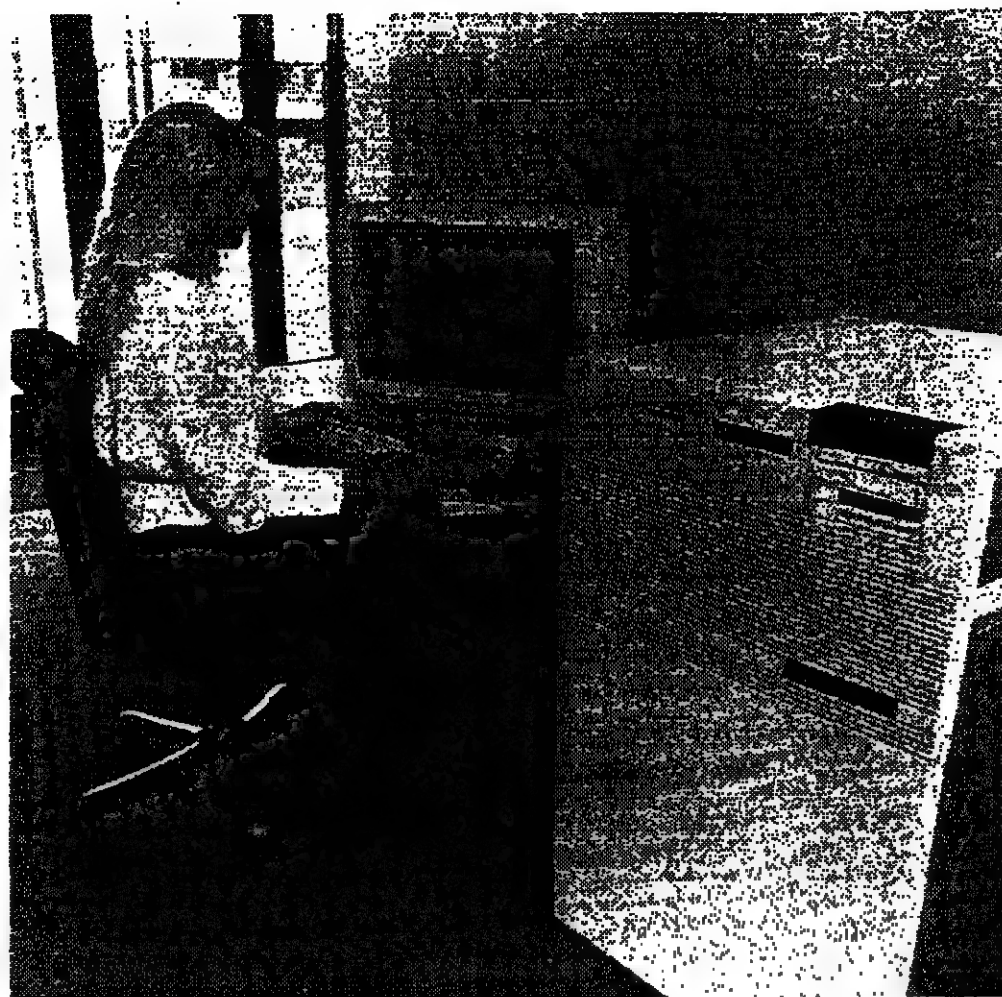
■ IBM, after an absence of some years, is once again a supercomputer manufacturer. ■ The full strength of the Japanese challenge has yet to be revealed, but nobody doubts they are already a force to be reckoned with.

What has made the difference is the emergence of computers with a substantial proportion of the performance of a traditional supercomputer at a fraction of the cost. The pioneer was Floating Point Systems but the leader today is the US company Convex.

The rationale behind the success of Convex, whose sales rose by almost 50 per cent in 1989, is that while many companies have tasks which require near-supercomputer performance, very few companies can justify the \$15m to \$25m asked for a top-of-the-range Cray or NEC machine.

## Louise Kehoe sums up the world of supercomputers

# A 'mini' transformation



Stardent's 2040 series graphics and departmental supercomputers range

But there are a host of tasks to which near-supercomputing power can be put. The design of pipework, architectural structures, mechanical simulations and so on. According to the most recent figures, technical computing, which includes scientific and other forms of numeric-intensive computing, will represent about 33 per cent of the \$204bn market for data processing equipment by 1993. Technical computing is growing at 18 per cent a year worldwide, 23 per cent in Europe.

High-powered workstations are also beginning to encroach on supercomputing turf. Figures from IBM on a reservoir modelling test program show that a Cray XMP completed the calculation in 2.9 seconds while

Convex C210 took 12 seconds. IBM's new workstation, the RS/6000, at 7.7 seconds, fell between the supercomputer and the minisupercomputer.

The threat from minisupercomputers is so strong that Cray has agreed to buy for \$35m Supertek Computers, partly owned by Yokogawa Electric of Japan, and will market its S-1 minisupercomputer which is compatible with Cray's machinery.

At the other end of the scale, Seymour Cray has been developing the Cray 3, an innovative machine using chips made of gallium arsenide, giving about three times the speed of silicon, and which takes miniaturisation to such a degree that the system modules have to be assembled by robots. The new

machine is expected to be launched next year.

Cray's business, however, is growing comparatively slowly - at about 8 per cent a year. Most companies which can justify the cost of a Cray have already made the investment, so the market is close to saturation.

There are also a number of specialised companies producing "massively parallel" supercomputers. Examples include the US Connection Machine, and the UK Meiko Computing Surfaces and AMT which markets a development of ICL's distributed array processor.

IBM has never been noted for its interest in supercomputers. More than 30 years ago it built a machine called "Stretch" and more recently

offered its model 370/195 for scientific computation, but in general the world's largest computer company has always regarded the investment in supercomputing research and development as too great for the return involved.

Since 1988, however, it has installed its 3090VF model at more than 400 sites worldwide. Whether or not the VF (vector facility, the feature which gives the machine its ability to tackle scientific computations) is a true supercomputer, is really a matter of semantics.

For a large number of customers, the 3090VF represents affordable supercomputing power. A six-processor system costs in the region of \$10m, about half the cost of a Cray or a Japanese supercomputer.

Mr Peter Rowan, manager of technical and scientific computing for IBM in the UK, says IBM's approach is quite different from Cray or from the Japanese manufacturers.

He anticipates a networked system where a RS/6000 workstation would be connected with the 3090VF and, possibly, a new supercomputer being developed with IBM's support by Steven Chen, an ex-Cray computer engineer. The Japanese manufacturers are still something of an enigma. They are worrying all the big supercomputer manufacturers. Mr Rowan says: "They scare me, because I do not know where they are coming from".

Since 1981, the six leading Japanese computer companies - Fujitsu, Hitachi, Mitsubishi, NEC, Oki and Toshiba - have been involved in a \$100m project funded by the government to develop supercomputers 1,000 times faster than those available at the start of the project.

There are two principal research areas, densely integrated, high-speed logic and memory chips using gallium arsenide and advanced circuitry and high-speed parallel processing techniques.

The market is changing politically as well as technically. Last month, the US and Japan announced an understanding designed to help the US sell its supercomputers to Japanese government agencies and institutions by ending the sharp discounts offered by the Japanese computer manufacturers.

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PC NETWORKING SYSTEMS



## COMPUTER INDUSTRY 7

Louise Kehoe analyses the 'dinosaur' factor

## Mainframes are alive and well

REPORTS of the impending death of the mainframe computer have been greatly exaggerated. Far from being the dinosaurs of the computer age, as some have called them, mainframes will continue to play a vital role in business computer systems for the foreseeable future.

The introduction of desktop workstations with "mainframe computer performance" is often mistakenly seen as the death knell of traditional mainframe computers. While the latest microcomputer technology can indeed shrink the raw processing power of a cabinet-sized mainframe on to a few chips of silicon, the two are hardly comparable in terms of the functions they can perform.

"While desktop computers have taken over word processing and spreadsheet applications, which used to be performed by mainframes, these smaller machines cannot replicate the data storage and retrieval capabilities of the mainframes," argues Sanjiv Hingorani, computer industry analyst at Salomon Brothers.

This is not to say that sales of mainframe computers have not been impacted by the advance of microcomputer technology. Indeed, the mainframe segment of the total market is now significantly smaller in terms of revenues, than the personal computer market.

Computer buyers are putting a larger portion of their data processing budgets into networking and desktop computers than they are into the purchase of new mainframe computers.

Computer manufacturers, driven by market trends, are similarly swayed toward emphasizing microcomputers in their marketing, sales and development efforts.

The growth of the mainframe computer market has slowed significantly over the past few years.

Analysts forecast growth this year of about 4-10 per cent, far below the double digit growth rates of the personal computer and workstation segments.

World sales of mainframe computers costing more than

\$1m totalled \$20.9bn in 1989, according to International Data Corporation, a US market analysis firm.

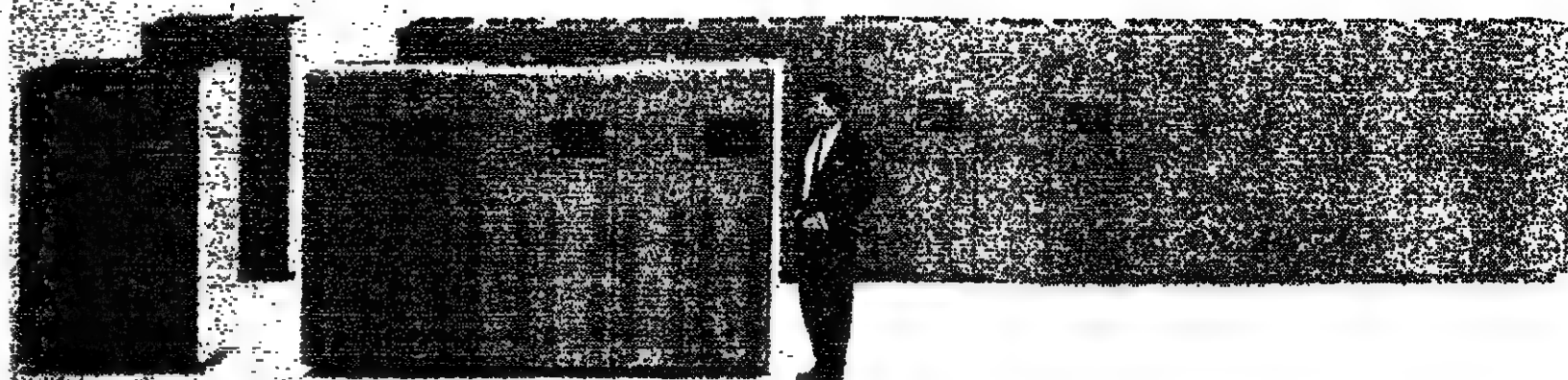
The analysts predict that in 1990, sales will total about \$23.5bn, growing by just 12 per cent over four years.

Yet the rise of networked computing, in which desktop, minicomputer and mainframes are linked by corporate wide networks, may actually lead to a resurgence in mainframe sales in the mid-1990s, some analysts now believe.

In this "distributed computing" model the mainframe computer takes on a new role. No longer the central processor upon which most applications are performed, the mainframe becomes a repository for huge quantities of data.

"We believe mainframes will become database servers as opposed to application executors," says Mr Hingorani.

Leading US mainframe manufacturers are developing software and networking technology that integrates mainframes into heterogeneous computer networks and provide ways for workstations, personal comput-



Smaller but faster: IBM's new 3390 Direct Access Storage device equals the capacity of the old 3380K in the background

ers and minicomputers to communicate with mainframe.

IBM, for example, has established its Systems Application Architecture which will link its incompatible product lines, ranging from PCs to mainframes, by defining the interfaces between software applications, databases and computer systems.

IBM dominates the world market for mainframe computers with an estimated market share of 60 per cent. Among US mainframe computer vendors, IBM's lead is even stronger, with a 76 per cent share of worldwide shipments by US companies in 1989.

However, competition is mounting, especially from Japanese makers of computers functionally equivalent to IBM's and able to run IBM software.

IBM's share of the "compati-

ble" mainframe market fell to about 83 per cent last year from its traditional 90 per cent, according to market analysts.

In the second half of last year IBM mounted an aggressive effort to protect its market share and boost mainframe sales through heavy discounting which forced competitors to pare margins reducing profitability throughout the mainframe market.

According to industry analysts, IBM has now modified its strategy and prices are firming after a precipitous fall last year. None the less, isolated reports of heavy discounting by IBM continue in the US.

As the role of the mainframe computer changes, IBM is also facing increased competition from new directions. Last October, Digital Equipment entered the mainframe computer market with its VAX 9000, which it

dubbed the "mainframe for the 90s".

With performance equivalent to that of IBM's most widely used 3090 mainframes, and significantly lower prices, the VAX 9000 represents an aggressive challenge to IBM.

Digital is not expected to steal large numbers of IBM customers who have huge investments in software and training that tie them to the number one computer manufacturer.

By extending its product line into the mainframe class Digital may, however, be able to prevent its minicomputer users from looking to IBM for more powerful computers as their needs expand.

Digital is also expected to win sales among users defecting from others such as Unisys, Control Data and Bull HN Information Systems (which

includes Honeywell's computer operations).

The VAX 9000 is specifically designed to be linked into distributed computer networks, many of which already incorporate Digital's minicomputers.

IBM also faces increasing competition from companies such as Tandem Computers with its "fail-safe" computers, widely used in banks and financial institutions where a computer failure could spell disaster.

A new generation of computer manufacturers such as Sequent and Pyramid, offering powerful parallel processing machines built from hundreds of microprocessors also represent a challenge to established mainframe producers.

For IBM, the shifting patterns of mainframe computer sales comes at a difficult time.

IBM's 3090 is nearing the end of its product life cycle, according to market analysts. Although some had expected IBM to offer a speeded up version of the 3090 later this year, industry reports now suggest IBM has abandoned plans for this performance booster.

It will be late 1991, according to analysts, before IBM begins shipments of its next generation mainframe computer, codenamed Summit, although the new product line may be announced this year. Summit is expected to provide a big performance boost that will stimulate demand.

By the mid-1990s, the convergence of new, more powerful IBM mainframes and increasing demand spurred by the spread of distributed computing may boost the growth of mainframe sales giving the "dinosaurs" a new lease of life.

## Networked computer systems

## Route to new corporate capabilities

THROUGHOUT the thirty-year history of the computer as a commercial product, the primary focus has been upon technology. As the fourth decade of commercial computing begins, however, computer manufacturers and users alike are finally turning their attention to the real purpose of computerisation - the quest for increased productivity and solutions to real business problems.

The technologies of the past three decades - mainframe computers in the 1960s, minicomputers in the 1970s and personal computers in the 1980s - all have a role to play.

**LOUISE KEHOE** highlights a fierce battleground in the "mid-range" computing field

To fulfil the promise of computing, and to meet the demands of users, the computer industry is increasingly turning, however, to a new computing model known as networked computing or client-server computing.

Networked computer systems link all of the computers within a corporation, preserving prior investments in hardware and software and adding new capabilities that greatly expand the scope of information services provided to individuals and to teams of people who work closely together.

In networked computer systems, the personal computer on the desktop becomes the window to all of the corporation's computer facilities. To users, it will make virtually no difference where data or applications actually reside.

Through transparent access, via networks and inter-networks, it will seem as if their own desktop systems are directly connected to corporate file systems, internal and external databases, electronic mailboxes, high performance processors and other facilities.

Network computing is creating new categories of computers which do not fit into the terminology of the 1980s. This new computing paradigm includes two types of computers - "clients" and "servers".

Client computers are desktop personal computers, terminals or workstations - the machines that deliver computing resources to individual users.

Server-computers cover a wider range of hardware types and can be broadly defined as machines that provide services to the networked system. In practice they can be as large as a mainframe computer or as small as a microcomputer.

In many cases they will be special purpose systems such as printers or data storage systems.

Servers co-ordinate the data traffic on a network and provide distributed services like shared file storage and retrieval and application process service.

Sharing high performance peripherals among many users reduces costs and off-loads tasks that would tie up a desk-

top computer for lengthy periods.

Although existing computers will often play the role of the server on a new networked computing system, several companies have recently introduced computers specifically designed to fit into the new computing model.

This intensely competitive field has become the new battleground in the "mid-range" computing field. Going head-to-head are the traditional minicomputer manufacturers such as Digital Equipment, IBM from the "mid-range mainframe" world, Sun Microsystems from its workstation background, and Compaq Computer with its base in personal computers.

All of these companies - and more - have over the past year introduced "servers" for network computing.

In addition, a new generation of specialist server computer companies is emerging. In the forefront of this trend is Netframe, a Silicon Valley company founded by computer industry veteran Carl Amdahl. Netframe offers purpose built servers, which it claims have several advantages over personal computers, minicomputers or mainframes adapted to the role of servers.

The growth of networked personal computers and workstations will nearly triple annual sales of servers over the next four years from their current level of about \$4bn to close to \$12bn, according to Forrester Research, a Massachusetts market research firm.

File servers are the most mature type of servers. These are systems that enable network users to share data, printers and other peripherals. The

**A new generation of specialist server-computer companies is emerging**

vast majority of file servers are computers that are adapted to their network management function.

In the future, however, special purpose file servers such as those offered by Netframe are expected to play an increasingly important role.

Application servers represent an emerging segment of the computer market. These are computers dedicated to a single application such as database management, which perform the "backroom" tasks of the networked computer system.

Communications servers, which manage the links between computers on a local area network and between local networks and wide area networks represent another important segment.

Client-server computing redefines the roles of a wide range of computer systems and eventually will reshape the computer industry, many believe.

In the short term, it intensifies competition in the traditional "mid-range" computer market sector as industry leaders adapt their products to fit the new computing model.



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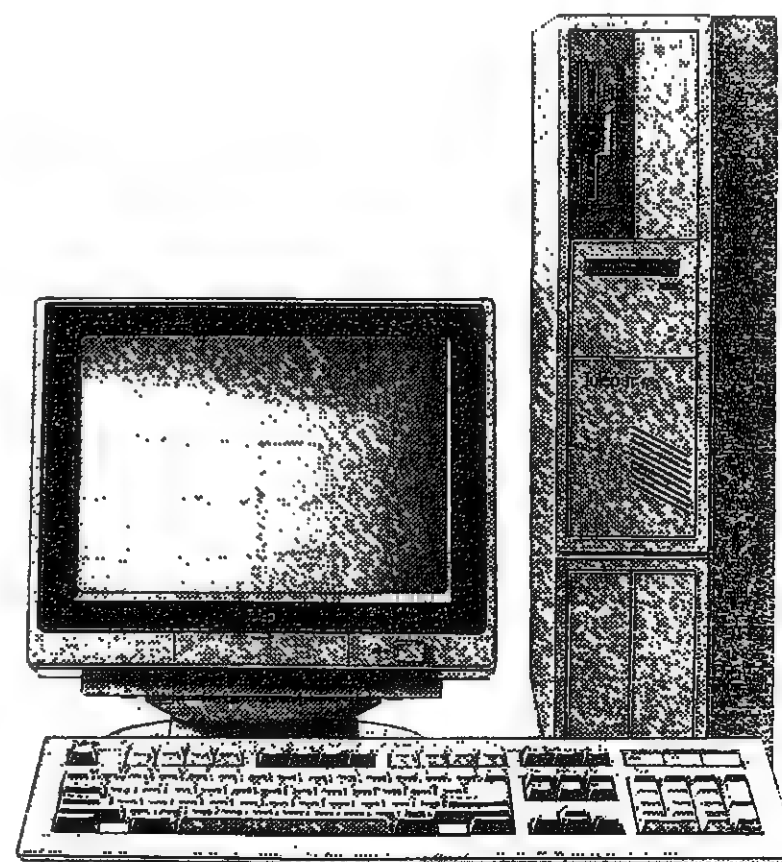
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## COMPUTER INDUSTRY 8

Philip Manchester looks at the changing face of computer screens

## Windows open on an uncluttered view

THE last couple of years has seen a startling change on computer screens. Gone are the days of the glass type-writer, where operating a computer consisted of mastering the art of advanced keyboard manipulation.

In its place is an attractive array of windows and icons which can be manipulated with a mouse pointer - what is known as "the Macintosh interface". If operating a computer is like driving a car, then the Apple Macintosh is the equivalent of the automatic gearbox.

Although not the first computer to feature what has come to be called a graphics user interface (GUI), the Apple Macintosh was the first computer to bring the idea (usually attributed to Xerox) to the mass market. It has taken somewhat longer for the GUI to percolate through to the world of commercial business computing. Paul Bailey, managing director of Lotus UK, suggests that this

is because some business applications are not necessarily suited to mouse-plus-windows GUIs - "there is still a lot of the old camp who do not want to move on - particularly in the spreadsheet market. It gets in the way of the experienced user. GUIs give you lots of clutter on the screen - slider bars, ventilator boxes and so on - which take up a lot of valuable screen real estate," says Mr Bailey.

Despite this, Lotus has recently launched a "G" version of 1-2-3 which offers a GUI - with or without the mouse pointer. "Just because you are using a GUI does not mean that you need a mouse. You can use standard Lotus 1-2-3

keystrokes with 1-2-3 G or a mouse - or both together," says Mr Bailey.

Despite some user's desire to keep with the older style interface, there is evidence that a change has begun and the GUI is ready to be accepted by business. Microsoft, developer of the Windows GUI for the IBM PC standard, estimates that only 10 per cent of its existing MS/DOS users have bought Windows so far.

But it has seen an upturn in the last year and Microsoft chief executive officer Bill Gates recently said he expects Windows users will be 50 per cent of the MS/DOS base in the next couple of years. It is not just personal computers that

are benefiting from better GUIs. The combined weight of suppliers looking for things to do with the powerful new microprocessor chip technology and the demand for an easier way to use computers has led to a wide agreement about what form the GUI should take.

Although there are variations, that form is essentially the Macintosh interface and it has become so important that it has sparked off a trail of litigation since the mid-1980s. But despite the legal conflict there has been unprecedented co-operation between manufacturers and broad agreement on many aspects of the GUI both externally - how it appears to

the user - and internally - how it can be used by the programmer to make nice applications. It is about time. The issue of the interface between computers and people has been on the agenda at least since the late 1960s.

It emerged then because it was the first time that a large number of people were exposed to computers. It is to the shame of the professional computer industry that there was little real progress until the first personal computers came along a decade later.

Professionals seemed to be quite happy to use arcane languages and procedures to operate earlier computers. In the 1980s, however, progress has

been rapid and, once the advantages of the Macintosh were recognised, it gained acceptance and is now firmly entrenched across a complete range of computers.

Apple may argue that its version of the interface is still the best one, but there are perfectly adequate GUIs for most computers now. The IBM PC standard has Microsoft Windows and Unix systems have a choice of several, including the Open Software Foundation's (OSF) Motif, SCO's Open Look and Sun's News.

IBM is even extending GUIs to its larger systems - under its policy of providing common user access under its Systems Applications Architecture

(SAA). SAA uses a GUI called Presentation Manager, derived from Microsoft's Windows. But now that the form of the interface has largely been agreed across the industry, there are moves to extend the GUI beyond its purely operational role. And Apple, among others, is out in front - "we don't think you can just bolt on an interface - it must be crafted into the operating system," says John Lettich of Apple UK. "But if you do build it into the operating system - it brings you other advantages. The new version of the Macintosh system software, System 7 - gives you a major one - inter-application communication or IAC," he says. "IAC is

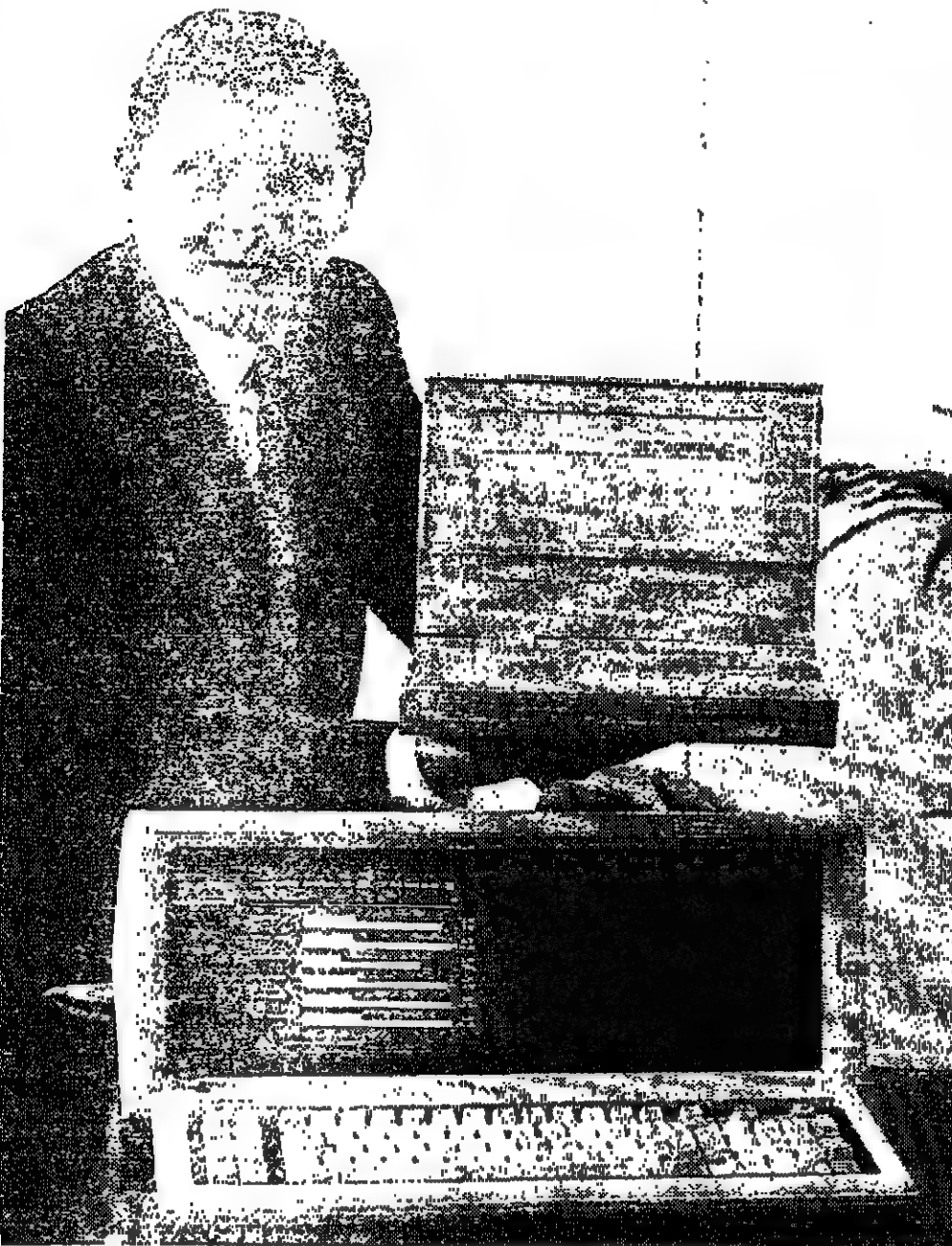
an extension to the Macintosh's cut-and-paste. It is a 'live' cut-and-paste which keeps references up to date."

Sieve Jobs, the founder of Apple and its former chief executive, has built similar features into his Next workstation with the Nextstep software. And Microsoft is attempting to apply the same principles to its PC-based Windows software.

There is little doubt that computers are much easier to use as a result of GUIs. It has introduced a set of easy operational concepts - Apple rightly calls them intuitive - and has brought consistency across applications. The next important change will be to extend common interfaces into the realm of user-built applications - when it will be hard to tell the difference between Lotus 1-2-3, Wordperfect, dBase and plethora of other products. Products will compete on their functions they can offer - rather than on their user interfaces. This is long overdue.

Personal computers have become the industry's driving force, says Louise Kehoe

## Side-show steals the limelight



Joe McNelly, vice-president and UK managing director of Compaq Computer, pictured with the original 286 Compaq Portable (lower model) and the latest Compaq LTE laptop machine. This highlights the dramatic evolution of portable technology in the last five years, driven by users' requirements for mobile computers, based on industry standards. The A-4 sized LTE offers full-function personal computing and weighs about 6lbs. Unlike its chunky ancestor, which earned fond comparisons with a sewing machine, it includes a 20Mb or 40Mb fixed disk and a battery to power the system.

requirements for mobile computers, based on industry standards. The A-4 sized LTE offers full-function personal computing and weighs about 6lbs. Unlike its chunky ancestor, which earned fond comparisons with a sewing machine, it includes a 20Mb or 40Mb fixed disk and a battery to power the system.

THE personal computer revolution of the 1980s has been just the opening act of a drama that promises to be equally compelling throughout the 1990s. With world sales of personal computers expected to top \$42bn this year, these desktop and carry-along computers have become the driving force in the computer industry.

More than half of all personal computers are now linked on networks, according to market researchers. This trend has significantly changed the role of the personal computer in office computer systems, making it an alternative to the traditional minicomputer with terminals. No longer a side-show to the mainstream data processing market, personal computers have become the centre of attention.

Personal computer hardware technology is following two parallel tracks. On the desktop, personal computers are becoming more powerful with the availability of a new generation of 32-bit microprocessors such as Intel's 486 and higher density memory chips.

Meanwhile, portable personal computers are quickly emulating the full functions of a desktop machine in ever

smaller and lighter form - a development aided by the compression of personal computer functions on to as few as half-a-dozen semiconductor chips.

In the software arena, big changes are under way. Throughout the 1980s, the personal computer market was dominated by Microsoft's DOS operating system. While DOS will undoubtedly remain dominant for several more years, it is increasingly challenged by OS/2, the second generation operating system from Microsoft and IBM and by AT&T's Unix.

OS/2, with its graphical user interface Presentation Manager, represents a significant step forward in personal computing. The new operating system is designed to take full advantage of high performance microprocessors by providing multi-tasking capabilities that enable a personal computer to perform several applications simultaneously.

Presentation Manager also brings the ease-of-use features pioneered by Apple Computer on its Macintosh to the rest of the personal computer world.

Since the introduction of the first version of OS/2 three years ago, its market impact has been limited by a lack of applications software. Fewer

than 50 applications designed to run on OS/2 with Presentation Manager are so far available.

Meanwhile, "Windows", Microsoft's program that upgrades DOS into a graphical environment with multitasking, is winning increased support. In June, Microsoft is expected to launch a new version.

**Portable personal computers are quickly emulating the full functions of a desktop machine in ever smaller and lighter form**

adoption of Windows that will provide users with Macintosh-like features on a standard IBM-compatible personal computer. Unix, traditionally a minicomputer operating system, is now finding its way on to networked personal computers and is dominant in the market for computer workstations.

With the introduction by Apple Computer, Hewlett-Packard and others of graphical user interfaces for Unix which

make the system far easier to use, Unix is becoming a serious contender in the personal computer arena.

Confusion over software standards is one of several factors that have led to slower growth of personal computer sales over the past year. Also inhibiting growth in the US are general economic conditions and the more mature state of the personal computer market. The markets in Europe and Asia are now growing much faster than in the US and are expected to continue to do so for several years.

Disappointing performance by Apple Computer and the financial problems of companies such as Kaypro have led to dire warnings of a broad slowdown in the personal computer market by some analysts.

However, these predictions must be viewed in the context of a business that has grown at a rate of more than 30 per cent a year for the past decade.

This year, the personal computer market may grow by a mere 10 per cent worldwide, with significantly slower growth in the US market.

Slowing growth is sorting out the men from the boys in the personal computer industry. Several secondary players have already disappeared from the scene and more may well follow. However, industry leaders have strengthened their position over the past year. The top five suppliers now account for almost 40 per cent of the world market.

IBM's share of the US personal computer market is stabilising at about 30 per cent after falling precipitously over the past two years, according to market researchers.

Winning market share are Compaq which now holds about 8 per cent of the US market, up from 6 per cent two years ago, and Apple Computer, which holds a 10 per cent portion of the US market, up from 9 per cent, according to International Data Corporation, a market research group.

The business market dominates the attention of most US personal computer manufacturers as sales of "low-end"

personal computers to consumers, schools, and businesses have slowed significantly.

At the high end of the personal computer performance scale, sales of very powerful personal computers, which compete with computer workstations, are growing unusually as they increasingly replace minicomputer terminals.

However, sales of portable, or laptop, computers are booming, with market growth expected to top 40 per cent this year. Emerging as leaders in the portable personal computer market are Zenith, Toshiba, Compaq, Tandy and NEC - with growing competition from Sharp.

Over the past year, handheld or pocket computers have also been launched by several manufacturers. These tiny computers rely upon the very latest chip technology to cram all the functions of an IBM-compatible computer into a pocket-sized device.

In the 1990s, personal computers are expected to evolve into notebook-sized devices with all the functions of today's desktop machines plus the ability to display video pictures, store voice messages and interpret handwriting.

The desktop computer, meanwhile, will become more closely linked with corporate computer systems and in a sense less "personal". It will, however, become increasingly easy to learn to use, and like the personal computer will incorporate multi-media capabilities that allow it to take on the role of a picture-phone or a television set or a fax machine as well as drawing upon network resources to bring the power of a supercomputer to the desktop.

Share of 1989 US personal computer market (\$ sales)	
IBM	20.1%
Apple	9.8%
Compaq	7.6%
Zenith	5.4%
Sun Micro	5.3%

Source: International Data Corp

A new workstation culture is emerging

## More power for users

MOST computer users will find themselves sitting in front of a workstation in the next decade. The days of the so-called 'dumb' terminal/central computer are fast disappearing to be replaced by a combination of powerful desktop computers, networks and central database servers.

The recent financial figures of established suppliers of the old forms of computing show only too clearly how times have changed. IBM's mainframe sales are flat, DEC is having problems sustaining its growth and Unisys has been forced to change its direction - including a change of chief executive.

By contrast, companies such as Sequent, Apollo and Sun Microsystems have shown where the action is. The workstation will change the face of computing beyond recognition and create an entirely new culture which will be as different from the old mainframe culture as current personal computing is. The result should be greater power to end users and a move away from the technology-intensive systems of the past.

The major manufacturers are gearing up to meet the new demands of this technology - but there are reservations about the cultural changes which will result. In the opening months of 1990, IBM has fought back strongly with the announcement of its RS/6000 and an upgraded PS/2 - both aimed squarely at the developing workstation market.

DEC, too, has recognised that it must move towards a product range which gives users more choice. IBM's announcements were especially interesting because they flew in the face of established IBM policy. The RS/6000, based on IBM's latest version of reduced instruction set computer (RISC) technology, is an archetypal workstation system.

It comes not as a single box with a number of screens attached to it, but as a set of powerful local workstations, connected together by network software to a central database or 'file server'.

As much of the processing as possible is done locally and, only when data is accessed or updated is it necessary to talk to the file server. IBM also took a rare leap forward technologically with the RS/6000 - offering a very competitive price/performance ratio.

DEC replied earlier this month with new workstations of its own design but they did not have the raw power that IBM managed to pack into the RS/6000. Mr Donald Gaubatz, group manager for workstations at DEC said that the new

products had better graphics than IBM's machines and will fit on a desktop. Analysts, however, were not too impressed with the DEC machinery. The conclusion is that IBM has made a genuine technological leap rather than simply fine tuning its existing designs. The DEC computers are based on a RISC chip from MIPS Computer Systems which will give 24 million instructions per second of processing power; the RS/6000, however, runs at up to 34.5 millions of instructions per second. Ten years ago, a mainframe running at 10 million instructions a second was regarded as fast.

**The workstation will change the face of computing beyond recognition and create an entirely new culture for computer users**

IBM still sees the RS/6000 selling into a traditional corporate structure, however. It might have distributed the technology, but it recognises that many of its customers will want to keep a leash on users. Whether they will be able to, remains to be seen. But it is not only established manufacturers like IBM and DEC who are homing in on the growing demand for workstation systems.

Personal computer manufacturers such as Compaq and Olivetti have also seen the potential of the market. Both have made significant product announcements in the last six months - Olivetti with its CP486 range and Compaq with its new range of machines.

In both cases, the systems throw down a challenge to existing centralized systems. And, of course, there is a plethora of East Asian companies - Mitsubishi, Toshiba, Sony and Matsushita - who also want a slice of the cake.

The wide adoption of standards has provided a static tar-

get for the clever production engineers of Japan to produce workstation boxes to order. But the development of workstations has not occurred in a technology vacuum. Cultural changes in industry generally have accelerated growth and acceptance of the idea.

During the 1980s, the trend towards decentralised operations provided the opportunity for many large users to re-assess their computer operations. They found that many applications involved only a small number of people working together. The concept of the 'workgroup' was born and it needed a different kind of computing to support it.

"If you look at the structure of organisation in the traditional data processing department - it reflects the culture of the company - central control, top down hierarchical systems," explains Richard Stone of Olivetti UK.

"This organisational culture is changing and involves more local information and autonomy," he adds. It also means significant change in the role of the data processing department. Over the last decade, more and more data processing departments have metamorphosed into information centres or information systems departments. They support workstation users in what they want to do, rather than dictating to them as they did previously.

Initially, workgroups were equipped with networks of personal computers or expensive proprietary systems like the Sun Microsystems range. But advances in personal computer technology and the wide acceptance of software standards such as Unix and the C programming language have created what amounts to a commodity market for workstation products.

Theoretically, this means that purchasers can buy the workstation they prefer from one supplier, the networking software from another and the central database server from yet another.

They all conform to standard interfaces and should, therefore, talk to each other. In practice, it is more complicated - but it is achievable. There still remains a strong role for the central information systems department.

Economies of scale in purchasing, enforcement of standards, systems security and data integrity are just a few reasons for its continued existence. But it must learn to co-exist with end users and step back from its traditionally technocratic attitudes.

Philip Manchester

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## COMPUTER INDUSTRY 10

## OPEN SYSTEMS CONCEPT

## So near yet so far

For many users, open systems must now be tantalisingly close, yet frustratingly still far away. The whole concept, where computer systems of virtually any make or type can be connected together to create a heterogeneous whole that is greater than the sum of the parts, remains largely that - a concept.

Yet it is now closer to a working reality. Digital Equipment Corp (DEC), for example, is already claiming it will be the first supplier to announce conformance to the Open Systems Interconnection (OSI) seven-layer reference model on all its systems before the end of the year. This is up to a year before IBM launches its compliance with the first five layers model in mid-1991.

The OSI model is a key element in moving open systems from concept to reality. The seven layers set out specific standards that cover all aspects of interconnecting different computers together, from the physical attachment of communications lines, via the protocols used to communicate information between them, the standard presentation of data, and the way in which different applications

The concept is now closer to a working reality, says MARTIN BANKS

and common services link together on a practical network.

In conjunction with this question of linkage, however, comes the question of using common software applications on different systems. Much of the discussion in this area has been conveniently shortened to one word - Unix - but it is proving to be not the open systems panacea some have suggested.

The Unix operating system has been the focus of much attention in the open systems debate over the last two years. This is the result of the very public schism between the suppliers that sided with AT&T, the owners of the originators of the Unix system, Bell Laboratories, which formed the Unix International group, and those that felt ostracised by that group and consequently formed the rival Open Systems Foundation.

The major trouble with Unix as a standard for open systems is that there is no one standard implementation of the system. While the rivalry between Unix International and Open Systems Foundation may bring the choice down to two, the goal of a single operating system under which wide-ranging applications and data portability can be achieved is still some way off.

There are those who contend such a goal is missing the point of open systems standardisation. DEC, for example, suggests that while Unix is an important operating system, it is not the only one.

MS-DOS and OS/2 on desktop workstations will still be prevalent into the next century. DEC's own proprietary operating system, VMS, will still be used for both workstations and servers. And IBM's own proprietary operating systems, such as VM, will be found on many back-end database engines in the larger networks.

Practical open systems, therefore, will be about the ability to create heterogeneous

networks that can accommodate and utilise all or any of these mainstream systems. The most important factor will be the protection of the user's existing investment in hardware, applications and data.

The bulk of the standardisation for open systems has been agreed - at least in principle - and most manufacturers and suppliers have made various forms of public commitment to them. Now, however, users are starting to confront the practical problems of implementing workable solutions, and that will hinge as much on a supplier's engineering skills as on adherence to accepted standards.

This leads to the possibility that the most appropriate companies to engineer open systems solutions may not be the companies that have set the open systems standards. According to Harvey Parr, managing director of systems integrators, ACT Logistics in Hemel Hempstead, this may come about because the imposition of standards brings some inevitable trends. Hardware, for example, is now a commodity item.

The choice available to users is quite restricted already: various forms of IBM's PC-compatible system, the Apple Macintosh, IBM's RISC machines, DEC Vaxes, HP workstations and servers, systems based on the Motorola processor family and hardware from Sun Microsystems and MIPS Computers. The number of processor suppliers is smaller and even more commodity-oriented: Intel, Motorola, Sun Sparc and MIPS predominate. And now both Intel and Motorola, leaders in the chip producing business, are moving strongly into the manufacture of workstations for the OEM market.

In operating systems, Unix, MS-DOS and OS/2 are pushing the commodity concept even further, despite the fact that there are still too many different versions of Unix available. This problem is most likely to be solved by the likes of Intel and Motorola, both with Application Binary Interface versions of Unix available for their processor families. This should give Unix machines based on those processors the same applications portability as now taken for granted on PCs with DOS.

There is now even a commodity trend in applications software, with an increasing number of users creating tailored applications based on database systems from the likes of Oracle, Ingres and Informix.

This trend towards commodity products, according to Parr, means that open systems companies will tend to polarise, focusing on either providing the base technology - the commodity items that meet the open systems standards, or on the application of technology for users' specific needs.

So as open systems start to move from the standards committee rooms out into the real world, the argument has begun to shift to which companies might be the best bet for successful implementation.

According to DEC, the evidence points to those with both sound engineering capabilities and substantial financial resources. This is because the level of investment being both made and protected by users is such that they will demand assurances that an open systems supplier will still be around in ten years' time.

## Advances in printer technology

## Era of the desktop laser

TEN YEARS ago, the market for daisywheel printers was booming. Today, it is virtually bust.

Although growth is slowing down for dot matrix printers, they continue to sell well for the time being, but the rising star is the desktop laser printer.

Before the laser printer arrived on the scene, the daisywheel printer had the edge over dot matrix in terms of quality for business correspondence.

However, the daisywheel is relatively slow and it was not uncommon for business users to buy one of each. Now they only need to buy one laser printer.

In the area of impact printers, the consumer report, "What to Buy for Business", has a new survey of nearly 200 dot matrix and daisywheel printers from 24 manufacturers - "with so much choice, it's easy to lose sight of the features that matter most," it says. There is a guide to "best buys," plus others rated as "good value," and "worth a look."

Today's best-selling laser printers incorporate Canon's print engine. However, Canon is reluctant to enter the market itself with any force for fear of upsetting its established customer base of original equipment manufacturers (OEMs), according to Dataquest.

As the undisputed industry leader, Hewlett-Packard has become the acknowledged low-end trendsetter as well.

The HP is the first laser printer sold for under \$1,000. More importantly, it has been positioned as a personal printer.

The total value of the European printer market from 1989 to 1993 is forecast at around \$37.8bn, with Germany leading at \$9bn, followed by France with \$7.7bn, and the UK with \$7.2bn.

Old fashioned typewriter ribbon-type printers - called impact line solid character

printers - are now largely a replacement business, and are in gradual decline.

In the case of high-speed non-impact page printing systems with speeds greater than 100 pages per minute (ppm), there are only a few suppliers of these large and costly systems, and the market is not likely to increase.

Medium-speed page printers operating at 20 to 100 ppm will take their place, and this is one of the major growth sectors in the printer business.

Low-speed page printers, or desktop lasers, have almost wholly replaced solid font "letter quality" serial impact printers, while also restraining the previously almost untrammelled growth of serial matrix products.

They are increasingly becoming the printer of choice in local area networks.

Non-impact serial correspondence quality printers such as thermal transfer and ink jet never quite lived up to their early promise.

Ink jet is only now really gathering momentum, largely on its ability to produce colour graphics output.

Desktop lasers show the most growth potential.

The 6 to 8 ppm band is the dominant one at present with more than 80 per cent of unit shipments and two-thirds by value.

It will retain its lead, although newer devices, first in the 10 to 12 ppm speed range, and later the 15 to 20 ppm range, will steadily increase their share, says Frost and Sullivan.

The European market for desktop lasers, worth about \$750m in 1987 for around half a million units, is forecast to grow two and a half times by 1993, with a quadrupling of unit shipments.

Desktop publishing has given the desktop laser printer market a boost but has also added substantially to the cost in terms of software value and content, particularly in the



The HP Deskjet printer from Hewlett-Packard also runs from IBM and IBM-compatible personal computers. It produces laser-quality correspondence, internal reports and letters with 300 dots-per-inch resolution for text and graphics

case of Adobe's PostScript page description language which enjoys a virtual monopoly for serious page design work requiring a range of fonts.

Most licence Adobe and this is expensive - "although it cost us six months out of the market, we developed our own Adobe-compatible font families in Japan," says John Carter, general manager of Brother's office equipment division.

The Brother HL-4 prints four pages a minute and retails at around £1,400. The HL-8 doubles the speed, but costs more than 40 per cent more. But the PostScript-compatible HL-8PS retails at around \$2,500.

"Our own versions of Times and Helvetica are similar in appearance, but because we developed them ourselves we have saved ourselves a lot of money on licence fees," adds Carter.

"We also supply a slot-in PC board from a US company called QS which provides true Adobe PostScript compatibility," he adds.

"PostScript is usually slow, and some documents take half an hour to come out if there are lots of graphics, but this board speeds it up by about 20 times."

"People such as Linotype get very protective about their typefaces. Fonts have been very expensive up to now, typically \$195 per font end-user price."

"Meanwhile, the prices of laser printers are falling below £1,000 on the High Street for a four page a minute printer like the HL-4, and soon there will be two page a minute printers which will drive prices down even further."

Hewlett-Packard is now determined to catch up with Adobe with its own page

description language, PCL Level 5, which will provide scalable fonts.

"I think PostScript will come down in price," says Phil Goodman, business manager at printer and peripherals distributor Rapid Recall.

Putting PostScript into a laser printer is the most efficient way to optimise performance. A lower-cost alternative is to load in fonts off diskette into the computer's main memory, but this can be much slower, and so is only suitable for low volumes.

"The problem is that with any software package, a lot of research and development spending has to go in," he adds.

"I think a lot of printer manufacturers resent the licence fees that are currently being demanded by Adobe. Whether Adobe is strong enough at the moment to hold them all off, I do not know."

"The thing is that PostScript works. It is a *de facto* standard which a lot of people have adopted."

"We have all got used to there being so much cheap PC software available that the expectation is that this too ought to be cheap. But there is an awful lot of programming code and intelligence which has gone into it, and somebody has to pay for it."

"To come into a market from nothing and win, you really have to have a strong product."

"What to Buy for Business," 11, Kings Road, London SW3 4RP (Tel. 01 730 0403).

"Dataquest Research Newsletter, November 1989: 'Laser Printers: what drives these engines?'" (Tel. 0955 855050).

Boris Sedacca

## A standard solution is elusive

THE computer industry is struggling to create common standards that will enable different types and brands of computers to share data and software and resolve the Tower of Babel atmosphere in the computer world.

The need for industry-wide standards is widely recognised. Observers believe the establishment of *de facto* software and hardware standards allowed the personal computer market to flourish over the past decade and become the largest product sector in the industry with annual sales of more than \$40bn.

The main advantage of personal computer standards was that they spawned a wealth of applications programs. Software designed to run on IBM's personal computers could also run on those manufactured by IBM's competitors.

For computer buyers, this has meant that "shrink-wrapped" off-the-shelf applications programs have been widely available for personal computers. For software developers, the large base of potential users has created an incentive to create more programs which in turn sell more computers.

To recreate this phenomenon, Sun Microsystems is attempting to establish a similar set of *de facto* hardware and software standards in the market for computer workstations.

LOUISE KEHOE on the struggle to resolve the Tower of Babel atmosphere in the industry

Sun bases its "open systems" approach on its SPARC microprocessor, which it has licensed to several chip-makers, and on the widely used AT&T Unix operating system. Sun positively welcomes other computer manufacturers to "clone" its workstations.

However, only a few other manufacturers have taken Sun up on its bid to create workstation standards. LSI Logic, one of the chip-makers licensed by Sun to produce the SPARC microprocessor, is, however, trying to accelerate the trend with its recent introduction of a set of chips designed for Sun "clones".

The "chip set", called the SparcKIT, could spark a proliferation of inexpensive workstations much as earlier chip sets helped computer-makers to clone IBM's personal computers in the mid-1980s, many believe.

Six computer-makers are designing the SparcKIT chip set into future computers, LSI says. The first Sun clones are expected in June.

While it is relatively easy to establish standards in new sectors of the computer industry, the process is proving to be far more complex in longer established segments such as minicomputers and mainframes.

Despite the logic of standardisation, it goes against the grain for the leading computer manufacturers to abandon the proprietary software and hardware that has set them apart from competitors in the past, and upon which their businesses have been built.

This is especially true of the industry's strongest players - IBM and Digital Equipment - for whom open systems represent a big competitive challenge. These companies in the past have used the proprietary

nature of their technology to protect their customer bases from would-be intruders.

The extent to which these industry leaders have embraced the "open systems" trend is therefore significant. Both Digital Equipment and IBM have recently introduced powerful workstations with the Unix operating system. Digital Equipment has gone so far as to assert that it intends to be the leading supplier of open systems in the 1990s. Similarly, Hewlett-Packard, the third largest US computer manufacturer, is a leading proponent of open systems.

This trio, joined by their European and Asian counterparts, are, however, determined to shape the standards upon which "open systems" are to be based.

This has led to an industry-wide battle over the definition of standards - in particular the establishment of a "standard" form of the AT&T Unix operating system.

Hardware standards are not even a possibility in the mainframe, minicomputer and workstation segments on the computer market. This makes the role of software, in the form of operating systems and programs designed to smooth over the differences between different types of processors, all the more important.

Dozens of different varieties of Unix are used on different types of computers. To resolve the problem, AT&T set out to develop a single "unified" version of Unix.

Instead of drawing the industry together, however, AT&T's plan caused an industry-wide schism between those who joined with AT&T on the understanding that they would become involved in the development of a "standard" version of Unix, and those who rejected AT&T's plan.

The latter group, including IBM, Digital and Hewlett-Packard, formed the Open Software Foundation and announced plans to develop their own, rival version of Unix.

Last autumn, AT&T introduced its "unified Unix" and demonstrated the operating system running on more than a dozen different types of computers. In a move aimed at mending the industry rift, AT&T also proposed, selling a set of chips designed for Sun "clones".

Recently, however, negotiations concerning the future ownership and control of Unix and other technical standards issues broke down and the two industry groups are now deadlocked. It appears unlikely, therefore, that a single "standard" version of the critical Unix operating system will emerge soon.

Personal computer hardware standards were split by IBM's introduction, three years ago, of its PS/2 range of personal computers with a proprietary bus architecture called "Micro-channel". In response, IBM competitors designed an alternative architecture which they have called Extended Industry Standard Architecture.

Similarly, personal computer software standards are in a state of flux since the introduction by Microsoft of OS/2, an operating system designed to take full advantage of the advanced features of the latest microprocessors.

Ultimately, computer buyers will decide the outcome of the industry's standards battles by voting with their purchases.

## Data storage and re-writeable optical disks

## Significant breakthrough

Optical disk technology has come a long way since it was first introduced into a sceptical market a decade ago. During the 1980s the technology stimulated new markets in hi-fi, with the compact disc, and in computing, where it is increasingly used for storing large-volume video and document images.

Optical disks have two great advantages over the magnetic devices which have dominated computer storage for more than 30 years. First, they are rugged and stable, offering the prospect of long-term, error-free and portable storage; second, they are capable of storing a vast amount of information. While some high-density magnetic floppy disks hold an impressive one megabyte of data, a similarly sized optical disk usually holds 600 times this amount.

The computer industry has been quick to see the advantages of optical disk technology. Optical disks known as CD-ROMs (compact disc read-only memory) are used to distribute books, catalogues, and large databases in a pre-recorded form. Other disks, known as worms (write-once read many), are distributed "blank" and are then filled by the user. By 1989, according to market researchers Frost & Sullivan, the combined European market for optical disk drives and the optical media will reach \$900m, up from just \$37m three years ago.

The take-up of optical technology to date, however, has been hampered by two critical technical limitations: until recently, it has not been possible to erase or change information on the disk; and data retrieval is, by magnetic standards, extremely slow, making the optical disk almost useless for fast, on-line applications where the information is needed quickly.

A third limitation is cost. Some suppliers are hoping to persuade users to replace their slow and unwieldy tape drives, used for disk back-up and long-term archiving, with optical disk drives. So far, how-

ever, tape remains much cheaper, and the introduction of digital audio tape (DAT) is making it even more cost effective.

The problem of slow retrieval speeds appears to remain intractable. Using today's technology, optical disks will always take at least twice as long to retrieve data as magnetic disks. This may not sound a lot, but time delays in collecting data can be dramatically amplified when computers are running complex applications or support large numbers of people at their terminals.

This limitation has effectively put a cap on the size of the optical market. "At one time, people thought optical technology could replace

everything. Now it is clear that optical disks are not a direct replacement for magnetic disks or tapes," said Mr. Peter Green, marketing director for computer peripherals at Hewlett-Packard.

Hewlett-Packard, like most major computer manufacturers, believes optical storage has its place between high speed but potentially unstable magnetic disks and slow, but reliable, magnetic tape.

It now appears that the most promising market for optical disks will be where the user needs access to large amounts of high-density information, but does not require it within seconds. The most obvious example is document image processing (DIP). A DIP system can be used to store and manage hundreds of thousands of facsimile copies of documents. Because the facsimile image takes up so much storage memory, optical disks are a prerequisite.

Solving the problem of "rewritability" has long been a holy grail of the optical disk developers and offers suppliers their best hope of opening up the optical disk market. For archiving purposes and for applications where a strict audit trail is required, it is useful to have a computer record which cannot be changed, but for most users the lack of rewritability imposes unacceptable limitations on the way they use computers.

By combining optical technology with magnetic methods, companies such as Sony, Ricoh, Maxtor, Panasonic and Canon at last feel confident enough to offer re-writeable high-volume storage products. By the middle of this year, at least 20 companies will be either manufacturing or distributing re-writeable magneto-optical disks.

The re-writeable optical disk has caused much excitement, with some analysts predicting that the young market for write-once devices will be quickly eclipsed. Mr. Richard Todd, product manager for storage devices at Panasonic, predicts that erasable devices are going to find markets wherever there is a need to store large amounts of transient data. He cites an example where an estate agent might want to keep resource hungry digitised photographs of a property on disk for a few months before destroying the data. More commonly, erasable optical disks could be used for temporarily backing up large numbers of faster magnetic disks.

Despite the breakthrough, the re-writeable optical disk still has some way to go. Mr. John Dring, marketing manager for the Philips Megadisc product, says the re-writeable optical disk is destined to be a niche market product, albeit "a large niche", because of the various technical limitations. He believes it will take "part of the tape market, part of the write-once optical market, and part of the magnetic market". Apart from the slow

Continued on facing page

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**MAINTENANCE** has two meanings in the computer business. Among software specialists, it means keeping old programs up to scratch and adding new functionality.

In the hardware world, it means keeping the machines up and running - and a new and increasingly important source of revenue for computer services companies.

Even today, when central processors rarely fail, when systems have duplicate parts for fault tolerance and broken parts can be diagnosed over the telephone, there is a strong and growing need for maintenance - especially with the advent of multivendor sites.

According to Frost & Sullivan, the marketing consultancy, the European market for third party maintenance is set to rise 54 per cent in the next five years.

Third party maintenance (TPM) companies service machinery which is not of

their manufacture. Indeed, the hardware in their care may be made by their competitors. The health of the market reflects customers' desire for "one stop" maintenance shopping with a single maintenance team and a single contract for all their equipment.

In 1988, according to Frost & Sullivan, the European market for third party maintenance was worth about \$595m; by 1993, it is expected to grow to \$925m.

Manufacturing industries are the largest consumer of TPM services followed by banking and retailing.

Government and defence is the fastest growing sector of the market as cost constraints

## Big demand for third party maintenance

# A healthy market

force re-examination of budget priorities. The UK is easily the European market leader in third party maintenance, with sales in 1988 of \$231m, forecast to rise to \$323m in 1993. The French were in second place with sales of \$133m and Sweden was in third place with sales of \$51m.

The UK is also the most volatile market for third party maintenance with a group of small companies jockeying for position behind the market leader, Granada Computer Services.

The competition has generated a state of acquisitions and mergers. Among the more interesting is Ferrari Holdings, backed by the merchant bank Singer & Friedlander, which has identified third party maintenance as a key element in its growth strategy.

Singer & Friedlander also has a stake in Apricot Computers of Birmingham which earlier this month sold its hardware manufacturing division to Mitsubishi Electric of Japan for \$28m, leaving it free to concentrate on computer software and services.

The turning point for Apricot was its acquisition last year of Information Technology (ITL), formerly Computer Technology and the UK's oldest mainframe manufacturer. The hidden value in the ITL acquisition, however, was the company's well established and profitable maintenance division.

As part of the deal with Mitsubishi, Apricot will retain the right to service Apricot computers for a minimum of three years.

The European market leader, Granada Computer Services (GCS), achieved its position through an aggressive acquisition strategy. It is one of the principal arms of the Granada group with service centres in the US, the UK, Ireland, and throughout mainland Europe. It claims a 20 per cent share of the European market, four times that of its nearest competitor.

According to Mr Conor Kehoe, GCS chairman, investment in the company now tops \$250m. The company's acquisitions on its way up include Computer Field Maintenance, DPCE and Mainstay, all well respected names

Mr Kehoe says that TPM companies have to be large. The investment needed to stay at the leading edge of the technology is increasing, while profits margins are steadily narrowing. Companies had to operate on an international scale to grow profitably.

His views are backed up by Frost & Sullivan which point out that computers manufacturers (who see maintenance as an important route to increasing their own revenues and are concerned about the possibility of losing business to independent third party maintenance companies) are setting the pace these days.

They are offering extended warranties, lowering maintenance charges and in some cases entering the TPM market themselves by offering to service their competitor's equipment.

An excellent example is Olivetti of Italy which is steadily

mixture of machines from different manufacturers. While its maintenance requirements are broadly similar to other companies with a comparable mixture of equipment, it has specific needs which have to be met.

The answer, Mr Kehoe says is a maintenance team on-site with adequate spares and a commitment to cover all the machinery on site. The skills needed, their working pattern and the target up time all have to be agreed with the customer.

Like most other areas of the computer business, however, a likely constraint on TPM in future is likely to be the shortage of skilled engineers. Computers, in the form of expert systems, may make it possible for less skilled engineers to carry out sophisticated repairs.

Alan Cane



New markets: the introduction of machines using the 80486 processor takes the microcomputer into new markets. Pictured here is a Hard Disc Vision broadcast graphics system on Research Machines' VX-486. It creates video images and controls editing functions.

## Dealers and distributors face complex problems

# Squeeze on profits

THE PEOPLE who actually sell computers, be they dealers, distributors, value-added resellers (VARs) or a combination of all of those, are facing a range of interlocking problems and challenges.

High interest rates and a reduction in consumer spending are combining to squeeze profit margins, while at the same time the industry is going through a series of radical structural changes. The approach of the single European market is, if anything, accentuating these difficulties.

The smaller computer dealership, to the extent that it still exists, is at the sharp end of these developments. High street glass frontage has been unfashionable since the mid-80s, when a number of high-profile chain stores came and went, and those dealers with high street, or perhaps even overtly retail premises, face a combination of high after-sales service requirements and lower profit margins.

These two are perhaps inevitable on the high street: if you are selling single units to individual customers you must expect to have to educate your customers as you sell, and that necessarily erodes profit margins. At the same time, if a company is selling fewer computers, it will anyway command lower margins from suppliers. Add a competitor a

couple of miles away, and high interest rates, and you have a price war, together with an inability to fund expansion (or, in many cases at the moment, to fund borrowing).

There are several routes out of this cul-de-sac. The most decried is "box-shifting" status, where a dealer relies on high volume to cancel out low margin. Move enough machines, goes the theory, and you can keep price low while still making money, even on a low margin.

Two other broad selling methods can be identified. The Computerland franchising chain was founded in the US as a "glass frontage" operation, but has been structured rather differently in the UK for historic reasons.

Computer Group, a Manchester-based company that accounts for a substantial proportion of Computerland's outlets, has minimised high street frontage while increasing the amount it spends on service, support and education.

The formula allows the dealer (or reseller, to use the vogue word) to command higher prices, and to sell extras on top of the basic equipment. Paradoxically, this approach appears to attract the more educated - and prosperous - customer.

The other selling method is that of the "dealer-distributor",

now the City's darling, but still rather more than just a Dash in the pan. Companies like Computacenter and Businessland fall into this category; Distributor P&P's purchase of

While the dealer-distributor is taking supplies direct from the manufacturer, and pitching for the corporate customer - thus taking itself into the higher echelons of the market - it is often, like the box-shifter, heavily reliant on high volume. It gets a better margin from the manufacturer because of high volume, while its customers get a better margin from it, because of high volume.

It can, however, compensate for the inevitable squeeze on margins by selling added services, such as training, and by reduced sales costs (because once you have an account, the corporate customer will automatically come to you for more equipment until the account comes up for tender again).

Those who say that this is the future of the computer trade postulate a world where there are around half a dozen major dealer chains in the country selling to the blue chip accounts, and selling more than half of all computer equipment, with the rest of the market being served by a large number of dealers, themselves serviced by distributors, just about scraping a living.

This analysis is however challenged by the two largest distributors in the US, Softsel and Ingram Micro D - both of whom are building European operations - and by the German company, Computer 2000, which since its link-up with UK distributor, Frontline, has established itself as the largest trade-only distributor in Europe.

One of the major issues for 1990 is the extent to which Europe is influencing plans, prompting the formation of large power blocks in both the dealer-distributor and trade-only distributor sectors.

Computacenter last November was one of the first dealers to produce a European initiative, linking with German dealer ComputNet and French Groupe Random to form the International Computer Group (ICG), a Paris-based joint venture company.

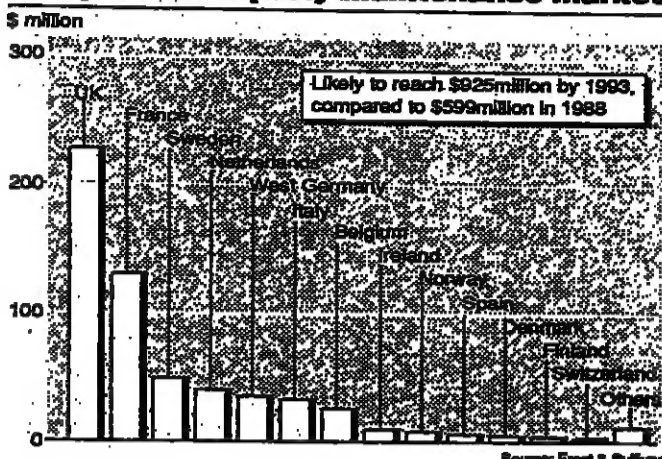
The companies involved in Comec (Computer European Circle) plan to set up working parties to work out ways to co-operate in personnel exchanges, communications, and the development of common product strategies.

These groups, or groups like them which will eventually establish themselves across Europe, will present a serious threat to smaller dealers who do not have a similar kind of buying power.

That is where pan-European distribution comes in. Softsel is the company that has been working towards this for longest, although early testing troubles mean that it does not actually have a large head start.

Continued on next page

## European third party maintenance market



## Advances in optical disks

Continued from previous page  
A more serious problem is that the magneto-optical devices now available share some of the instability problems associated with magnetic disks, making them unsuitable for critical back-up storage.

Later this year both Philips and Panasonic are launching re-writable optical drives that use no magnetic technology at all. Unlike the optical drives these will soon be able to read the write-once disks already on the market.

As ever, there is a trade-off: while these may eventually prove to be both faster and more stable than magneto-optical disks, it will not be possible

to rewrite the disks more than 1m times - one tenth the number of rewrites possible using magnetic technology.

Many users, and especially those using departmental or stand alone desktop computers, will not notice or be concerned with the limitations on speed, durability or erasability.

The advantages of higher storage capacity alone will be enough to make an investment worthwhile.

Wang and Olivetti Filenet, two world leaders in document image processing, have already announced their intention to support re-writable optical drives in their products within two years.

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## COMPUTER INDUSTRY 12

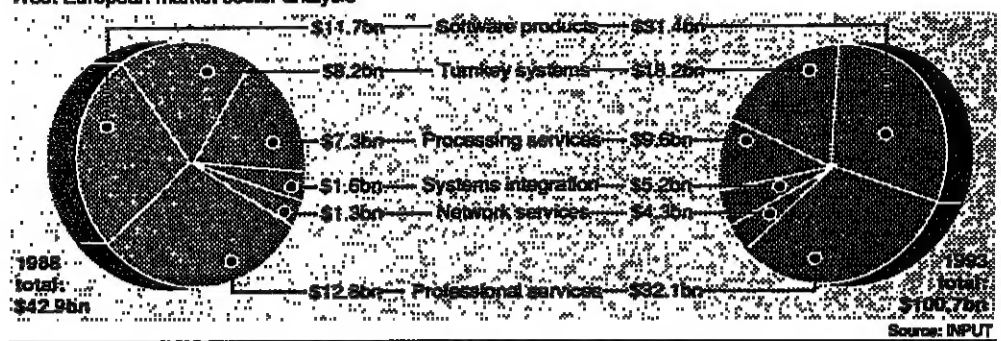


**■ SUPERGRAPHICS WORKSTATION:** university software development is being demonstrated here on an IBM Risk System/6000 POWERstation 730. This computer, one of a series of four, has high-function 3-D graphics and relies on an new generation of reduced instruction set computer (RISC)

technology. This IBM-invented architecture, called Performance Optimisation with Enhanced Power (POWER), separates the processor into three independent functional units that permit concurrent execution of multiple instructions.

## Computer software and services

West European market sector analysis



Philip Manchester on the user as programmer

## A new software role for users

For the last 20 years, the computer industry has searched for ways to build software quickly and economically.

The emphasis has been on the use of technology and management techniques to improve the quality and quantity of software by professional programmers. But with new techniques such as software engineering and object-oriented design, the emphasis has shifted towards greater involvement by end-users.

There has been a succession of false claims of 'productivity breakthroughs' on the back of technology fixes - including better programming languages, automated tools to generate programs and system design aids.

Although only a partial success, these advances have helped to change the perception of the software production process to one more in line with traditional engineering. The result - software engineering - provides a better understanding of how computer systems are constructed, how they evolve and how this evolution can be controlled.

But software as engineering changes other things, too. It allows computer systems to be built from 'off-the-shelf' software components and promises

to bring more power to end users of computers. Although there has been a parallel effort to find ways of transferring programming power to users, attention has been focussed on tools, methodologies and project control for the professional.

But the shift from traditional, centralised computing to networks of personal computers and workstations, combined with software engineering, has raised serious questions about the role of professional programmers.

Networks distribute much more computer power to end-users, change the shape of applications and, consequently, the way they are built. The role of the professional programmer must change to meet the new demands.

"During the 1980s there was a massive move towards decentralisation - both in corporate terms and in information systems terms," says Roger Wolfe, a consultant with Butler Cox. Mr Wolfe has studied the database of projects built up from Butler Cox's Productivity Enhancement Programme (PEP) which includes many major software development projects carried out by the world's largest companies.

"We waited until we had a good sample - 400 full pro-

jects. We looked at areas which were of the greatest significance to PEP members and discovered that the role of information systems (IS) departments is changing. One important change is that IS managers recognise that they must allow users to do their own thing," Mr Wolfe notes.

It has been recognised since the early days of computing that the best way to make scarce programming resources more productive is to move the onus of application 'programming' to the user.

End-users know about their business and want useful tools which will help them achieve their goals more effectively. It makes sense to provide them with the tools to solve their own problems rather than try to solve the problem for them. The computer industry has produced a succession of technology 'fixes' to try and achieve this.

The first wave of 'user aids' were called 'Report Writer' languages. They allowed users to perform some elementary programming to produce output formatted to their own specifications. IBM's RPG (Report Program Generator) is an example. Report writer languages were followed by a number of variations which attempted to bring the power



of programming to users. But they all suffered from a similar problem. If they were powerful enough to do all that users wanted of them, they were difficult to learn and use. If they were easy to use, they were too limited.

In the 1980s, personal computers acted as a strong stimulus for more powerful ways of manipulating data. The ever-inventive software industry has provided users with the tools to create their own solutions to problems. The spreadsheet program is a classic example. Lotus 1-2-3, the most famous spreadsheet, is a highly-specialised programming language, in addition to its obvious role as a spreadsheet calculator.

Advanced spreadsheets such as Microsoft Excel, Informix Wings and later versions of Lotus 1-2-3 can be used for highly-complex applications across network which involve many users. But they can still be used for small-scale, desktop applications set up by individuals for their own use.

This form of bringing power to the user is likely to be pushed much further with new techniques under the umbrella of object-oriented design and programming. Pioneered by Xerox and Apple in the 1980s, this approach sits very easily with the concepts of software engineering. It views computer systems as a set of interacting, self-contained objects which can be assembled in different ways.

Bill Atkinson, the designer of the Hypercard object-oriented system packaged with Apple's Macintosh, compares it to Meccano or a software erector's set. Programs like Microsoft Excel already include many features drawn from the object-oriented approach and it is also working with Hewlett

**■ A SOFTWARE training system,** developed by AEG Olympia - part of the £240bn Daimler-Benz group - is being launched at the 'Which Computer?' show at the National Exhibition Centre, near Birmingham (April 24-27). The new system is designed to help corporate users give comprehensive training to small and larger groups.

Despite huge investments in personal computers, research has shown that most companies do not get the best from their investment in new technology because staff use only a fraction of the PC's capabilities, says AEG. Pictured here is the new 386-based model 80 personal computer from AEG Olympia's expanding range.

Packard on New Wave, a much more general object-oriented system. Other software suppliers have also taken note. Mike Baggott, of Canadian software supplier Cognos, sees the next major breakthrough coming from object-oriented techniques hitting the traditional data processing department. "It has not permeated through to development departments yet - partly because it is much more difficult to do it in a multi-user system," says Mr Baggott. "But it is starting to happen. The work we are doing with Ingres and Ashton Tate on Interbase is aimed in this direction. It is not exactly an object-oriented database - but it does embody similar concepts."

Mr Wolfe of Butler Cox warns that power must be distributed to users under the control of IS departments: "We have noticed that the swing to distributed computing has started to move the other way - as the problems of uncontrolled use of PCs have become evident. But IS managers can see that they must permit autonomous development - but they cannot allow a free-for-all," he says.

Object-oriented techniques could help to bring power to users in a controllable way. Personal computers have also caused a revolution in the professional programmer's world. The modern programmer sits in front of a specialised 'workstation', connected to a development database, and work on the business of building and maintaining software in the same way that a clerk would work on an inventory control operation.

Personal computers (or workstations) and networks bring programmers, systems designers and end users closer together than ever before. They are all users of the same system each with a clear role to play. Object-oriented techniques allow professional programmers to build useful components which users can choose and combine to produce their own custom applications.

This would seem to be a much more natural division of labour and a clear way to solve many productivity problems in the software business. IBM executives are fond of an analogy with the early motor industry. In the days when cars were difficult to operate and maintain a large car manufacturer conducted a survey which showed that there would be a shortfall of a million professional chauffeurs within five years.

Rather than find ways to make existing chauffeurs more productive or ways to train massive numbers quickly, the motor industry decided it was time to make cars easier to operate.

The development of popular photography and the Kodak 'Brownie' camera shows a similar change of view by manufacturers.

The computer industry is on the verge of a similar change and object-oriented design promises to make it easier to produce useful software assembled by users for users.

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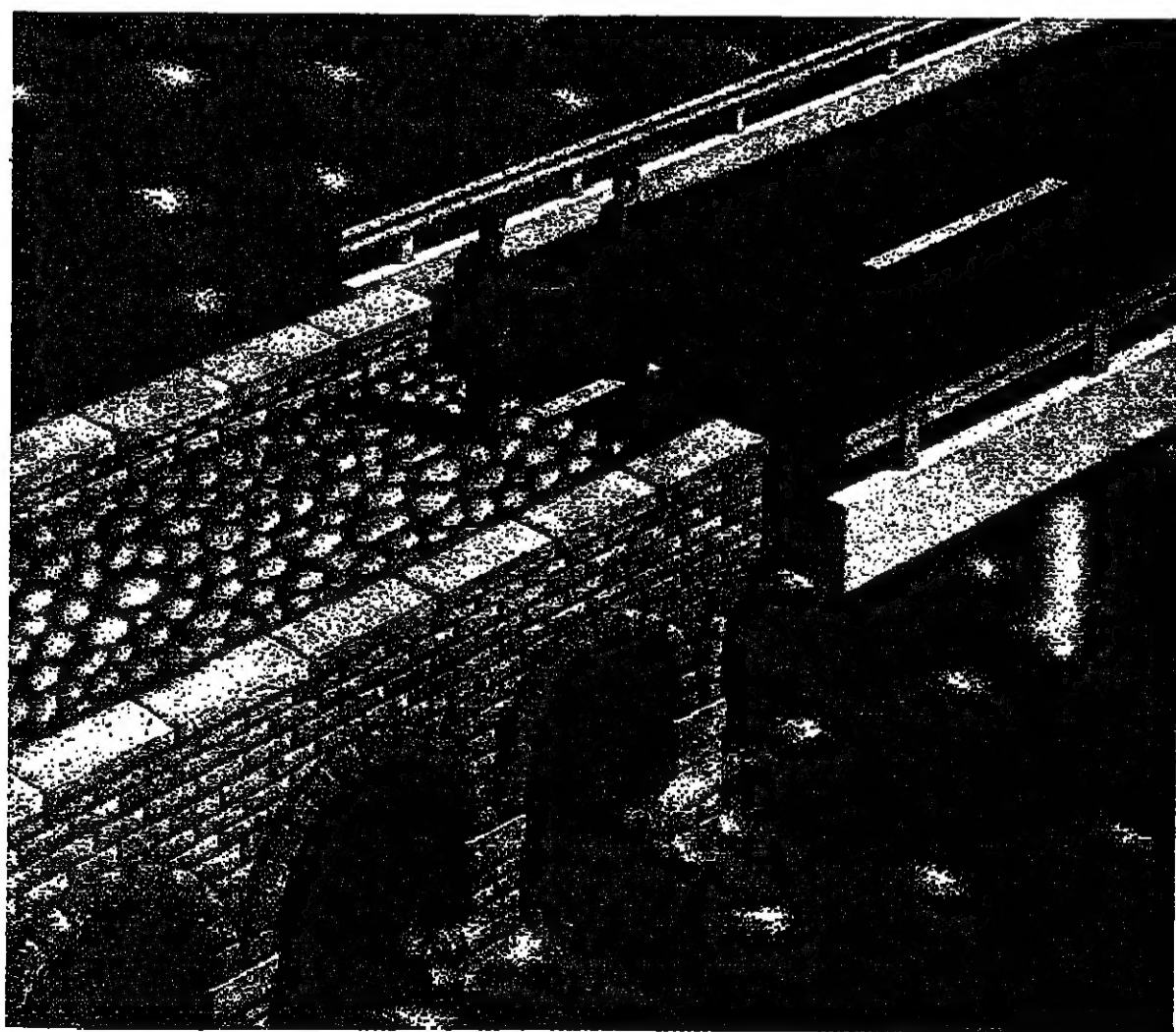
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